

ANGLIA RUSKIN UNIVERSITY
AN INVESTIGATION INTO PATIENTS' AND DIABETES
SPECIALIST NURSES' EXPERIENCE OF DIABETES
CONSULTATIONS IN PRIMARY CARE

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A thesis in partial fulfilment of the
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ANGLIA RUSKIN UNIVERSITY
ABSTRACT

FACULTY OF HEALTH, SOCIAL CARE AND EDUCATION
DOCTOR OF PHILOSOPHY

AN INVESTIGATION INTO PATIENTS' AND DIABETES SPECIALIST NURSES'
EXPERIENCE OF DIABETES CONSULTATIONS IN PRIMARY CARE

ROBERT PRIHARJO

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The role of diabetes specialist nurses in delivering diabetes consultations has been recognised for more than a decade, particularly since the publication of the Standards for Specialist Education and Practice by the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) in 2001. However, evidence on how the consultation is delivered, together with patients' experiences, is somewhat limited. This study examined diabetes specialist nurses' and patients' consultation experiences in primary care. It also investigated the process and outcome of these diabetes consultations.

This research utilised a sequential mixed methods single approach design in which qualitative was followed by quantitative investigation. In the qualitative stage, 7 diabetes specialist nurses and 7 patients were interviewed separately, followed by observations of 7 nurse-patient consultations. The data from the interviews were analysed thematically, whereas the data from nurse patient consultations were examined through conversation analysis (CA). The investigation continued quantitatively, where the questionnaires were developed based on the qualitative findings and adaptation of the Consultation Quality Index (CQI-2). Following on from a pilot study, the questionnaires were sent to adult patients with diabetes (n=150) and 40 completed questionnaires were returned for statistical analysis. The qualitative and quantitative findings were then merged in a matrix diagram to reveal holistic findings on consultation experiences.

The thematic analysis of patients' interviews produced five themes which were: *'I don't like living with diabetes'*, *'Daily problems'*, *'Coping with my diabetes'*, *'How the nurses approach me'* and *'My expectations toward the diabetes specialist nurses'*. In contrast, the themes from the nurses focused not only on the diabetes consultation but also care management issues: *'Current problems'*, *'My expectations towards the patients'*, *'Consultation approaches'*, *'Personal development'* and *'Team working'*. Details on the sequence and scope of consultations were obtained from conversation analysis which highlighted the approaches commonly used by the diabetes specialist nurses. The statistical analysis showed associations between partnership and empathy ($P=0.01$), empathy and outcome ($P=0.005$), information giving and consultation time ($P=0.05$). The integration of qualitative and quantitative findings suggested 'Consultation stages' as a theme, and also four themes related to consultation experiences: *'Day to day hurdle'*, *'Knowing each other'*, *'Shared expectations'* and *'Working together'*.

This study has identified the value and processes of the nurse-patient consultation in diabetes care from a nursing context. In general, the patients experienced their consultations with the DSNs positively. They highlighted key personal characteristics of the nurses. Similarly, the nurses considered their role in delivering consultation as crucial. Some challenges were evident including patients' behaviours, the diabetes knowledge of other health care professionals and the lack of administrative support. The association between the nurses' empathetical approaches and the patients' outcomes needs further investigation.

Key words: diabetes consultation, experiences, diabetes specialist nurses, mixed methods, conversation analysis, thematic analysis, primary care.

TABLE OF CONTENTS

ABSTRACT	i
TABLE OF CONTENTS	ii
ACKNOWLEDGEMENT.....	vi
LIST OF DIAGRAMS.....	vii
LIST OF TABLES	viii
NOTATIONS.....	ix
CHRONOLOGY OF EVENTS	xi
COPYRIGHT DECLARATION	xiii
Chapter 1 INTRODUCTION	1
1.1. Pathology and epidemiology	1
1.2. The burdens of diabetes and its care management	5
1.3. Consultation issues.....	9
1.4. Aim	12
1.5. Research question and objectives	13
1.6. Outline of thesis.....	13
Chapter 2 LITERATURE SEARCH STRATEGY	19
Chapter 3 CONSULTATION MODELS AND ITS DEVELOPMENTS WITHIN	
DIABETES NURSING	24
3.1. The role of the nurse in diabetes care	24
3.2. Consultation models.....	37
3.3. Selected aspects of diabetes consultation delivered by DSNs.....	49
3.3.1. Outcomes of diabetes consultation.....	50
3.3.2. Experience/ views/ patient satisfaction	52
3.3.3. The scope of diabetes consultation	53
3.3.4. Modes of consultation	53
3.3.5. Constraints	56
3.4. Summary.....	57
Chapter 4 EXPLORATION ON RELEVANT CONSULTATION SKILLS FOR	
DIABETES SPECIALIST NURSES.....	60
4.1. Nurse-patient relationship.....	64
4.2. History taking.....	77
4.3. Physical assessment.....	84
4.4. Clinical decision making.....	86
4.5. Being a prescriber	94

4.6. Summary	96
Chapter 5 THE THEORETICAL CONSIDERATIONS	99
Chapter 6 RESEARCH METHODOLOGY	105
6.1. Review on positivism and constructivism approaches	106
6.1.1. Positivism.....	106
6.1.2. Constructivism	110
6.1.3. Critiques on quantitative and qualitative research	113
6.2. Epistemological assumption	117
6.3. Research design	120
6.3.1. Phase 1: Qualitative (QUAL).....	125
6.3.2. Interim Phase	138
6.3.3. Phase 2: Quantitative (QUAN)	139
6.3.4. Phase 3: Interpretation	143
6.4. Rigor and validity of the study	144
6.4.1. Data collection	146
6.4.2. Data analysis	148
6.4.3. Interpretation.....	149
6.5. Potential ethical issues and protection of the research participants	149
6.6. Summary	153
Chapter 7 FINDINGS FROM THE QUALITATIVE (QUAL) INVESTIGATION	154
7.1. Themes from interviews with the patients	154
7.1.1. Theme: I don't like living with diabetes	158
7.1.2. Theme: Daily problems.....	159
7.1.3. Theme: Coping with my diabetes	172
7.1.4. Theme: How the nurses approach me	174
7.1.5. Theme: My expectations toward the nurses.....	183
7.1.6. Summary	186
7.2. Themes from interviews with the DSNs	187
7.2.1. Theme: Current problems	190
7.2.2. Theme: My expectations towards the patients	203
7.2.3. Theme: Personal development	205
7.2.4. Theme: Consultation approaches	208
7.2.5. Theme: Team working	230
7.2.6. Summary	231
7.3. Conversation analysis of the nurse-patient consultations	232

7.3.1. The opening	233
7.3.2. Core of consultation	238
7.3.3. The closure	251
7.3.4. Summary	252
Chapter 8 FINDING FROM QUANTITATIVE (QUAN) INVESTIGATION	255
8.1. Research Participants	255
8.2. Partnership	259
8.3. Information giving	259
8.4. Length of consultation	260
8.5. Empathy	260
8.6. Consultation outcome	262
8.6.1. Coping with life	262
8.6.2. Understanding diabetes	263
8.6.3. Coping with diabetes	264
8.6.4. Keeping self healthy	264
8.6.5. Confident about personal health	264
8.6.6. Self help	265
8.7. Results of Inferential Statistics	265
8.7.1. Associations	265
8.7.2. Bivariate Correlations	266
8.7.3. The effects of the empathy variables on all six outcome variables	269
Chapter 9 THE INTEGRATION OF QUALITATIVE AND QUANTITATIVE PHASES	272
9.1. Theme: Day to day hurdles	275
9.1.1. Patients' daily issues	275
9.1.2. Nurses 'common issues	278
9.1. Theme: Knowing each other	282
9.2. Theme: Shared expectations	283
9.3. Theme: Working together	285
9.3.1. I am here for you	287
9.3.2. Let us talk like two friends	288
9.3.3. Caring and understanding	289
9.3.4. Listening	289
9.3.5. Confirming	289
9.3.6. Information giving	290

9.4. The stages of diabetes nursing consultation.....	291
9.5. Summary.....	298
Chapter 10 DISCUSSION.....	300
10.1. The experience of the patients in diabetes consultation	300
10.2 The diabetes specialist nurses' experience in delivering diabetes consultation.....	307
10.3 . The consultation sequence and scope	314
10.4 . The contribution of the quantitative findings in confirming or expanding the qualitative results.....	319
10.5. Methodological consideration	321
Chapter 11 CONCLUSIONS	323
11.1. Research objectives, summary of findings and conclusion	323
11.2. Contribution to knowledge.....	324
11.3. Limitations of the study	327
11.4. Recommendations	328
11.5. Self-reflections	330
REFERENCES.....	333
APPENDICES	361
Appendix 1 The main published evidence obtained from a variety of databases	361
Appendix 2 Discrepancies between nurse and patient perceptions.....	362
Appendix 3 Poster	363
Appendix 4 Leaflet.....	364
Appendix 5 Interview schedules (for patients)	366
Appendix 6 Interview schedules (for DSNs).....	368
Appendix 7 Jefferson's transcription symbols for conversation analysis.....	370
Appendix 8 Research questionnaire.....	372
Appendix 9 Ordered dependent variable model	376

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LIST OF DIAGRAMS

Diagram 1 Developing therapeutic rapport in the consultation (Norfolk, et al., 2007).	70
Diagram 2 Novice clinical reasoning model (NCRM) (O.Neil, et al., 2004).	88
Diagram 3 Standing's revised cognitive-continuum of clinical judgement and decision making in nursing (Standing, 2007).....	91
Diagram 4 Conceptual framework.....	102
Diagram 5 Qualitative and quantitative continuum (John, Onwuegbuzie and Turner, 2007).	119
Diagram 6 The sequential research design	124
Diagram 7 Hierarchy of themes from the patients interviews	157
Diagram 8 Hierarchy of themes from the interviews with the DSNs	189
Diagram 9 Integration of QUAL and QUAN	274

LIST OF TABLES

Table 1	Number of articles showing the utilisation of mixed methods in diabetes research.	21
Table 2	Selection of definitions of nurse specialists and advanced practice.	27
Table 3	Most common areas of practice (Mc. Gee, et.al., 1999).	30
Table 4	The nurses' roles in diabetes care and the required qualifications (TREND UK., 2010).	32
Table 5	Specific roles undertaken by DSNs (James, et al., 2009).	34
Table 6	Selection of consultation models (IGP Notebook, 2011).	40
Table 7	Evidence of diabetes consultations conducted by DSNs.	50
Table 8	The cost benefits generated by specialist nurses (Royal College of Nursing, 2010, p.4).	52
Table 9	Categories and competences of the CAIIN (Hastings, 2006).	61
Table 10	Principles of motivational interviewing (Miller and Rollnick, 2002).	75
Table 11	Selected qualitative studies to investigate the patients' experience, perception and understanding of diabetes.	111
Table 12	Comparison of qualitative and quantitative research (Miles and Huberman, 1994).	113
Table 13	Selection of studies using mixed-methods sequential design.	122
Table 14	Details of patients involved in the interviews.	154
Table 15	References and nodes from the interviews with the patients (Clustered by Nvivo software).	155
Table 16	The DSNs involved in the interviews (names are pseudonyms).	187
Table 17	References and nodes from the interviews with the DSNs (names are pseudonyms) (clustered by Nvivo software).	188
Table 18	The common sequence of diabetes nursing consultation.	253
Table 19	Participants' demographic characteristics.	256
Table 20	Length of consultations.	260
Table 21	Six statements to measure the consultation outcome.	263
Table 22	Statistical probabilities (P) of associations between patients' biographies and information giving, partnership, empathy, outcome. Significant associations are highlighted.	266
Table 23	Correlation of five variables (significant associations are highlighted).	267
Table 24	The dynamic of diabetes consultation.	286
Table 25	The stages of nurse patient consultation.	292
Table 26	Diabetes management and life style issues discussed in the consultations.	295

NOTATIONS

- Adjacency pairs: A concept proposed by Sacks (more formally outlined in Schegloff and Sacks, 1973) which means a sequence of utterances which are adjacent, produced by different speakers, ordered as a first part and second part and typed, so that a first part requires a particular second, or a range of second parts (Heritage, 1984, p. 246)
- ANOVA: ANalysis Of VAriance between groups.
- APHO: Association of Public Health Observatories
- CA: Conversation Analysis is characterized by the view that how talk is produced, and how the meanings of talk are determined, are the practical, social and interactional accomplishments of members of a culture. The aim of CA is thus to reveal the organized reasoning procedures which inform the production of naturally occurring talk (Hutchby and Woofitt, 2010)
- CAIIN: Consultation Assessment and Improvement Instrument for Nurses
- Chi Square: a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis.
- Conversational opening: A set of utterances focusing on understanding the pattern of early stage of talk
- CPD: Continuing Professional Development
- CQI-2: Consultation Quality Index Version 2
- D: Daughter
- DSN: Diabetes Specialist Nurse
- ERPHO: East of England Public Health Observatory (hosted by the NHS Cambridgeshire). The unit provides health intelligence products, services and training.
- GTT: Glucose Tolerance Test
- HbA1c refers to glycated haemoglobin, which identifies average plasma glucose concentration
- ICN: International Council of Nurses
- IDF: International Diabetes Federation
- N: Nurse
- NHSME: National Health Service Management Executive
- NICE: National Institute for Clinical Excellence
- NSF: National Service Framework
- P: Patient
- PCT: Primary Care Trust
- PD: Patient's Daughter
- P Value (calculated probability): the estimated probability of rejecting the null hypothesis (H_0) of a study question when that hypothesis is true.
- Pearson correlation coefficient (r): a measure of the strength of the association between the two variables.
- PREP: Post-Registration Education and Practice
- PW: Patient's Wife
- QUAL: Qualitative phase of a mixed method study
- QUAN: Quantitative phase of a mixed method study
- Repair: a generic term which is used in CA to cover a wide range of phenomena, from seeming errors in turn-taking such as those involved in

much overlapping talk, to any forms of what we commonly would call 'correction' (Hutchby and Woofitt, 2010).

- Sample mean: an estimator available for estimating the population mean.
- Spearman's rho: a measure of the linear relationship between two variables.
- Standard deviation: a measure of the spread or dispersion of a set of data
- TA: Transactional Analysis; an integrative approach to the theory of psychology and psychotherapy developed by Eric Berne.
- Thematic analysis: a conventional practice in qualitative research which involves searching through data to identify any recurrent patterns.
- TREND-UK: Training Research and Education for Nurses in Diabetes-United Kingdom.
- Turn-taking: a type of speech exchange system which according to Sacks (1974) turns in conversation are resources which, like goods in an economy, are distributed in systematic ways among speakers.
- UKCC: United Kingdom Central Council for Nursing, Midwifery and Health Visiting
- WHO: World Health Organisation
- YHPHO: Yorkshire & Humber Public Health Observatory

CHRONOLOGY OF EVENTS

1. The research proposal was approved by the Faculty of Health and Social Care (now Faculty of Health, Social Care and Education) Research Degree sub Committee in 29th April 2008.
2. The research ethics approval was awarded by Cambridgeshire 2 Research Ethics Committee on 12th April 2010 (Ref: 10/H0308/6).
3. NHS Peterborough gave permission to conduct the study in 2nd June 2010 (Ref: L001032).
4. Sabbatical request (Semester 2 2011/2012) was granted by The Sabbatical Panel, Anglia Ruskin University on 24th March 2011 (Ref: HRS/AW)
5. Qualitative data collection which involved interviewing patients, diabetes specialist nurses and recording their consultations was conducted between July and October 2010. This was then followed by data analysis. Some of the qualitative preliminary findings were presented at the Diabetes UK Professional Annual Conference in London, 31st March – 1st April 2011, at the Home care seminar, Mitra Bunda Foundation, Batam Island Indonesia (11th June 2011) and at the diabetes team meeting, Peterborough PCT on 27th July 2011.
6. The findings and methodology issues in the use of mixed methods were also accepted as an oral presentation at the 7th International mixed methods conference at the University of Leeds on 29th June – 1st July 2011.
7. Following a pilot study to test the adaptation of CQI2 (completed at the end of June 2010), a survey was conducted from July to the end of August, 2011. This involved sending questionnaires to 150 patients, of which 40 completed questionnaires were returned. Data analysis has been on-going since 14th September 2011 with the help from the Faculty Medical Statistician and Research Supervisors.
8. Training on conversation analysis at the University of York on 10th- 12th August 2011 was attended, the knowledge and skills obtained from this training was used to analyse records from nurse-patient consultations.
9. An abstract indicating preliminary finding of the quantitative findings was accepted for a poster presentation at the Diabetes UK Professional Conference in Glasgow (7th -9th March 2012).

10. Sabbatical period between May and July 2012. At the end of this sabbatical, a report was sent to the University Administrator and to the Head of Department and discussed with the research supervisory team at the research monitoring meeting.
11. An oral presentation on the elements of empathy in diabetes consultation was delivered to the 17th PSAD- IASD (The Psychosocial Aspects of Diabetes Study Group) spring meeting in Ljubljana, Slovenia on 20th-22nd April 2012.
12. Various presentations on diabetes and preliminary research findings were presented in seminars, or as a guest lecture at universities (members of the Association of Indonesian Nurses education): 24th May- 4th June 2012.
13. An oral presentation was delivered at the Confirmation of Candidature for PhD meeting on 9th February 2012. The consideration from the Faculty Research Degrees Sub Committee was received on 25th May 2012.
14. Two external examiners were proposed by the supervisory team (January, 2013).
15. A presentation entitled 'Patients' experience in attending their consultations with diabetes specialist nurses' was given at the PSAD- EASD 18th meeting in Croatia on 12- 14th April 2013.
16. Thesis submission (June 2013).
17. Viva voce at East Road campus Cambridge (31st November 2013).
18. Thesis submission following the viva (February 2014).

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[Submission of Thesis for Examination Declaration Form]

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Signature of First Supervisor A. McVicar

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Chapter 1 INTRODUCTION

1.1. Pathology and epidemiology

Diabetes is a chronic metabolic disorder which has a huge impact on the people who live with this condition and the health care system. The understanding of its pathophysiology and comorbidities has helped clinicians to prevent or treat anyone who are at risk or already lived with this chronic condition. The role of a feedback loop including islet β cells and insulin-sensitive tissues in glucose metabolism as well as the link between insulin resistance and glucose concentration has been well known (Kahn, Cooper and Del Prato, 2013). Apart from this, other mechanisms which have a link with the causation and development of diabetes such as the Ominous Octet (the alpha cell, the gastrointestinal tract, kidney and brain) and hormones including dopamine, testosterone, renin-angiotensin system and Vitamin D have been recently examined (Kalra, 2013). Other studies have sought to reveal the association between environment and genetic in type 2 diabetes (Cornelis, 2012, Sandovici, 2013), nevertheless their interaction remains hypothetical due to bias of the environmental and genetic factors (Patel, 2013) or the ethical, economic and logistic challenges in conducting this type of human genetics research into practice (Franks, 2011).

In conjunction with the ongoing research in understanding its pathophysiology as mentioned above, diabetes has been considered as “*a metabolic disorder of multiple aetiology characterized by chronic hyperglycaemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action or both*” (World Health Organisation/WHO, 1999, p.2). This definition was reconfirmed by the WHO (2006) as a result of the WHO

Development Group meeting in Geneva in 2005 when the group felt that diabetes needed to be clearly defined. The American Diabetes Association (ADA, 2012) in their position statement also stated a similar definition by stressing the main features of '*chronic hyperglycemia*' and the long term complications affecting different organs. The main issue of hyperglycaemia has been acknowledged in studies conducted by researchers such as Inzucchi, et al. (2012) and Esposito, et al. (2013).

The International Classification of Diseases (ICD-10) uses the classification for diabetes as non-insulin-dependent diabetes mellitus, insulin-dependent diabetes mellitus, malnutrition-related diabetes mellitus, other specified diabetes mellitus and unspecified diabetes mellitus (WHO, 2013). Although, in the WHO (1999, 2006) documents the terms of type 1 and type 2 are suggested to differentiate the main types of diabetes. The 11th revision of the classification has already started and will continue until 2015. In this last revision, the terms '*type 1*' and '*type 2 diabetes mellitus*' are used in which type 1 is differentiated as idiopathic and immune-related. Other types of diabetes such as unspecified, other specified, not type 1 and not type 2, diabetes in pregnancy are listed. More specifically, in the majority of the types, any complications (if any) related to diabetes are also included.

Similarly, back to 2001 when the Diabetes National Service Framework (NSF) was created in the UK, diabetes was stated as "*a chronic and progressive disease that impacts upon almost every aspect of life. It can affect infants, children, young people and adults of all ages, and is becoming more common. Diabetes can result in premature death, ill health and disability, yet these can be often prevented or delayed by high-quality of care*" (Department of Health, 2001 p.6). Although, the

Diabetes NSF has been archived, this framework is considered to be the first national commitment to set up diabetes care standards.

In the later document, the Department of Health (2008) still used the definition from the WHO (1999, 2006) with some precautions that the diagnosis of type 1 and type 2 diabetes could be confusing, due to the absence of a clear distinction between the definitions of both these conditions in the WHO documents, therefore the understanding of clinical features is important in the process of diagnosis (Department of Health, 2008, p.4).

As a result of the WHO Development Group meeting in Geneva in 2005, WHO (2006) clearly stated that diabetes should be differentiated with IGT (Impaired Glucose Tolerance) or IFG (Impaired Fasting Glucose). Unfortunately, the clinical decision involved in diagnosis making seems still to be problematic for some clinicians (De Lusignan, et al., 2012). A report launched by the Royal College of General Practitioners and NHS Diabetes (2011) based on an audit across five practices found out that 2.2% of people diagnosed with diabetes were actually not suffering with the condition. In addition to this, 2, 1% of patients were diagnosed with the wrong type of diabetes. The report suggested recommendations to improve coding, classification and diagnosis of diabetes in primary care in England.

Apart from hyperglycaemia as indicated by the above documents as well as by Inzucchi, et al. (2012) and Esposito, et al. (2013), other main clinical features of diabetes such as the alterations in nutrients metabolism (Mattei, et al., 2012; Rovner, et.al, 2012) and insulin production that lead to morbidity (Diabetes UK Nutrition Working Group Members, 2011) have been well investigated. It is

therefore vital to maintain blood glucose levels as this not only could help patients to function as normaly as possible but also to reduce or delay both micro and macro-vascular complications (Krentz, Cloug and Byrne, 2007; Fowler, 2008).

In 2011, WHO released a report on HbA1c which could be used to diagnose diabetes with the cut point of 6.5%. However, there were considerations which needed to be taken into account when using HbA1c in practice. This report did not replace the 2006 recommendations on the use of plasma glucose measurements. Therefore, the diagnosis criteria published in 2006 is still valid. In its development, apart from its use as the gold standard for monitoring glycemic control, diagnosis and screening (Higgins, 2013), HbA1c has also been utilised to investigate the correlation between glycemic control and diabetes complications (Maple-Brown, Ye and Retnakaran, 2013).

According to WHO (2011), more than 220 million people worldwide have diabetes. Garwood (2011) reported that diabetes killed more than 1 million people per year. This mortality rate was high in the countries with a population of low and middle income, which accounts for 80%. Yorkshire & Humber Public Health Observatory (YHPHO) (2012) estimated that in England the prevalence of diabetes was 3,141,660 (prevalence: 7.3 %). The NHS Information Centre for Health and Social Care (2011) released more accurate numbers and recorded that 2,455, 937 people (5.5% of the population) in England lives with diabetes and combining with Scotland, Wales and Ireland, the number of people with this condition is 2.9 million which makes the UK average of 4.45 %. The number of people with diabetes in England is predicted to continuously increase to 4,189,229 by 2025, reaching a prevalence of 9.0% (APHO Diabetes Prevalence Model, 2013).

Statistics for the locality of the current study suggested only a slightly higher-than-national prevalence. The estimation of the number of people with diabetes in the Cambridgeshire and Peterborough CCG (Clinical Commissioning Group) in 2012 was 45,840 (6.7%) (Diabetes Health Intelligence and National Diabetes Information Centre, 2012; APHO, 2013). In Peterborough UA (Unitary Authority) itself there were 10,368 people aged 17 years and older diagnosed with diabetes in 2012 which gave a prevalence of diagnosed diabetes among people aged 17 years and older in Peterborough UA as 7.4 %, compared to 7.3 % in all PCTs in England with similar diabetes risk factors (YHPHO Diabetes Prevalence Model, 2012). It is predicted that the number of people with diabetes in England will increase to over 4million (prevalence: 8.8%) by 2030 if the current population trends and obesity remain unchanged (YHPHO Diabetes Prevalence Model, 2012).

1.2. The burdens of diabetes and its care management

The incidence of diabetes creates burdens not only for those who have diabetes and their families, but also for the NHS which spends 5% of its total expenditure (9% of hospital expenditure) on diabetes care (Department of Health, 2006). The increasing numbers of people living with diabetes, together with the current political as well as professional issues in the UK, demanded that health care professionals consistently deliver high standards of care.

The endeavours to improve quality within the NHS can be traced back by looking at the initiatives set more than a decade ago. The publication of the White Paper “*A First Class Service: Quality in the New NHS*” (Department of Health, 1998) gave an indication on how the NHS would speed up quality, by setting out an infrastructure

such as the National Institute for Clinical Excellence (NICE), National Service Frameworks (NSFs) and at local level, Clinical Governance. Following this, in July 2000 the NHS plan (Department of Health, 2000) was released with its key performance targets, including the reduction in waiting lists and the mortality rate of cancer and heart disease. The commitment to protect patients was also being made clearer by reforming professional regulatory bodies, the Clinical Assessment Authority and the National Patient Safety Agency.

Many improvements were achieved since the release of the Diabetes National Service Framework (Department of Health, 2001). However, because the impact of diabetes can affect all aspects of lives , there are areas which still require attention, such as structured education for people with diabetes and management of the condition for young people and complications (Department of Health, 2010). Ideally, early intervention should be given as soon as abnormalities in the blood glucose levels are identified. Unfortunately, in many cases, the early condition does not show any symptoms, therefore prediabetes and early onset of type 2 diabetes can be easily undetected (Pratley, 2013) and even worse, diabetes complications might already have happened at the diagnosis .

Nationally, diabetes is still one of the major health issues for the NHS and the increasing demand for resources remains challenging (Diabetes UK, 2013). The challenges are also faced by many local health care sectors. For example, a local figure from the 2010/11 Quality Outcomes Framework report suggested that the diabetes mellitus indicator of 15 GPs (56 %) in this area is still below the average in England. In addition to this, some GPs only managed to achieve 40.0% of the target of patients with the last HbA1c is 7 or less (8.4 % age points below PCT average and

14.2% below English average) (NHS The Information Centre, 2012). The key problem with this explanation is that the reason for the unmet HbA1c target is not identified, which might be related to the patients' difficulties in adopting a healthy life style, preventive care and healthy eating (Jones, et al., 2003). Another factor which has been widely suggested is concerning with the level of knowledge of diabetes amongst health care professionals including general practitioners (Rayman, 2012). A good knowledge of diabetes will help health care professionals in caring for their clients or patients (Surampudi, 2009).

Apart from the issues in meeting the quality outcomes framework, the psychological impacts of living with diabetes such as depression and other emotional problems (Peyrot, et al., 2005; Huber, Drescher and and Asimakopoulou, 2009) could be a challenge not only for the patients but also for the health care professionals. It has been estimated that depression is twice as common in people with diabetes compared to those who live without this condition (Winkley, 2008, p.92). Unfortunately, as argued by Lloyd, et al., (2012), the majority of epidemiological evidence which shows the link between diabetes and depression comes from the English speaking countries or from the developed world. Therefore, the prevalence of depression between countries and sexes may vary.

One standard statement which is designed to incorporate the psychological care for people with diabetes was standard 3 of the Diabetes NSF (Department of Health, 2001, p.21). This standard clearly mentioned the need to empower patients and involve them in their care by encouraging partnerships in decision making and support for their healthy lifestyle. Following this standard, a range of national diabetes guidelines were released by the National Institute of Health and Clinical

Excellence and the Department of Health. One guideline which stressed the need for partnership working with patients was published in 2006 by the Department of Health and Diabetes UK Care Planning Workgroup (DH, 2006). It indicated that relevant evidence must be used to support the way health care professionals work together with the patients from the assessment to action plan phases. In this document, care planning is defined as *“a process which offers people active involvement in deciding, agreeing and owning how their diabetes will be managed. It aims to help people with diabetes achieve optimum health through a partnership approach with health professionals in order to learn about diabetes, manage it and related conditions better and to cope with it in their daily lives “* (Department of Health, 2006, p.5).

Yet, despite some improvements, there are no agreed clinical pathways for managing psychological issues in diabetes (Nicholson, et al., 2009 p.447). Other issues which have created challenges in establishing partnership working with people living with chronic illnesses such as diabetes could be related to factors affecting compliance (Chatterjee, 2006; Tamir, et.al, 2012). Although there is no single or standard definition of compliance, there is agreement that the essence of compliance links to the patient's ability or behaviour to follow the health advice as given by the health care professional (Cramer, et al., 2008). The term '*compliance*' has been considered as putting the patient in a passive role which does not support the approach of enhancing the patient's involvement in decision making and partnership working (Kelley, 2005). WHO (2003) suggested the use of the word '*adherence*' to show the extent to which a person's behaviour, such as taking medication, followed a diet or adopted a lifestyle change as suggested by or agreed with the health care professionals.

Recently, NICE (2011, p.26) in the quality standards programme indicated the need to improve the quality of diabetes care and patients' positive experience. One of the standards is related to the management of psychological problems. However, it may take time before this standard can be fully implemented by the health care providers across the United Kingdom due to the current challenges in putting in place the provision of emotional and psychological treatment and support for people with diabetes. The joint NHS Diabetes and Diabetes UK (2010) recommended areas which needed to be prepared including: commissioning, organisation of care, provision of services, workforce and future research priorities. In agreement with this, NICE (2011) specifically stated the essential of good communication between health and social care professionals and people with diabetes which could be achieved through education, personalised advice, care participation and care planning.

1.3. Consultation issues

Unfortunately, it is not always easy to support adherence and promote good communication as mentioned above. Some previous researchers have shown issues on consultations between nurses and patients. For example, Woodcock and Kinmonth (2001) reported differences between the concerns as perceived by patients and nurses. Following an analysis of completed questionnaires from 360 patients newly diagnosed with type 2 diabetes and 47 practice nurses, they produced a list of concerns which showed these differences (Appendix 2). Therefore, they proposed that the nurses needed to be supported in enhancing their ability to identify patients' health concerns. In their previous study involving a randomised controlled trial, these authors looked at the challenges in implementing the principles of patient-

centred care within a consultation context (Woodcock and Kinmonth and, 2001) and they suggested that the consultation skills of Diabetes Specialist Nurses and Diabetes Dieticians needed to be studied closely in order to evaluate their effectiveness.

Another study conducted by Parkin and Skinner (2003) gave evidence of the problems surrounding patient-professional interactions in diabetes care consultation. These authors found discrepancies between patients and professionals in the amount and type of information from the consultation that was recalled by both parties. They also observed a lack of agreement of what was discussed during the consultations. Although Parkin and Skinner's study identified the interaction problems during the consultations, it did not examine any specific behaviour that could hinder effective communication.

A variety of models of consultation have been proposed since that of Balint in 1957 to guide health care professionals in consulting their patients. In his model '*the doctor, his patient and the illness*', Balint explained the importance of psychological factors and doctor's personality in establishing doctor-patient relationship through elements such as the apostolic function, the drug doctor, the sick role and the long consultation. The apostolic function basically refers to the doctor's own beliefs which can be imposed on patients. The drug doctor indicates the therapeutic effect of doctors which can be powerful and not necessary related to the treatments they offer. The sick role highlights the passive role of the patient and the hand over of their responsibilities to the doctor. The long consultation suggests a sufficient time for a single consultation. Balint's work has contributed many concepts to the doctor-patient relationship. However, Balint's proposition and other consultation models (further details are given in Chapter 3) are mainly designed for

medical professionals which target more on its effects or patient outcomes (Pendleton, et al., 2003). Previous studies also mainly explored consultations from a broader context regardless of the type of patients' chronic conditions (Parkin and Skinner 2003). To date, there is only a small number of studies focusing on diabetes consultations delivered by nurses and the majority of the research is from outside of the UK and written not in English such as in Portuguese (Bezerra, Moreira, Nobrega-Therrien and Mameida (2008); Curcio, Lima and Torress (2009); in Spanish (Ceron Marques and Betancor Delgado (2005), Martinez Piedrola, Castro Molina and Saez Crespo (2005) and in Scandinavian (Edwall, Danielson and Ohrn (2010). This evidence has clarified the need to study diabetes consultations in the UK and other English speaking countries. Similarly, despite the increased number of Clinical Nurse Specialists and Nurse Consultants in Diabetes in the UK, there is a limited number of UK studies which either explore the processes or the outcomes of nurse-patient communication within a consultation context (Brown, 1999; O'Gara, 2004). Therefore, research studies focusing on consultation within primary care settings are highly relevant (Lakasing, 2007; Young, et al., 2009). The findings can enrich evidence on how the nurses, particularly the diabetes specialist nurses, establish their interactions or work together with the patients in order to achieve both the local and UK national standards in diabetes.

It can be argued that within current health care practice, the process or pattern of consultation is as important as clinical outcomes, since there is now increased emphasis on considering patients' experience with their health and social care (Department of Health, 2003). Within the diabetes context, patients come to see health care professionals with many different problems relating to their monitoring, diet and treatments (NICE, 2011). These physical issues as well as psycho-social

problems such as depression, might influence how the nurse-patient consultation is structured. In addition to these, the local demographic characteristics and predictive factors of diabetes which are related to age, deprivation and ethnicity have put some people from the most deprived areas and from Asian and Black ethnic groups more likely to develop diabetes at younger ages (YHPHO, 2012). Consultation is a complex transactional process and is considered in more detail later.

1.4. Aim

This study aimed to offer findings or evidence of the adult patients' and Diabetes Specialist Nurses' experiences in establishing their one to one consultations.

By exploring the above aspects from the patients' and nurses' perspectives, this research was expected to clarify a gap in the knowledge of nurse-patient diabetes consultation. Following a detailed exploration, the study might be able to suggest more structured ways in conducting consultations and in supporting self-management to people living with the condition. Furthermore, the outcomes of this study might give a mutual feedback to any Primary Care Trust in evaluating the benefits from moving the care provision from hospital to the community setting and in giving some evidence of the nurse led diabetes clinic. From a broader context, the findings shall be relevant with the new vision published by the government in '*NHS 2010- 2015: from good to great*', which strongly indicated the dedication to personalise one-to-one health care by a health care professional for people with long-term conditions, including diabetes.

1.5. Research question and objectives

The idea of studying diabetes consultation was based on many aspects. As discussed in the previous sections, there are issues surrounding nurse-patient consultation in diabetes care including the processes and outcomes which have not been sufficiently explored, regardless of the role the Diabetes Specialist Nurse (DSN) plays in delivering consultations and patient education. The primary question in this study is *“How is diabetes consultation within a community health care setting experienced by adult patients and by diabetes specialist nurses?”* This question is answered by examining a range of areas through the following objectives:

- To explore the views of both the adult patients and diabetes specialist nurses concerning the diabetes consultations between the patients and the nurses.
- To investigate the pattern of diabetes consultation by considering the interaction between the nurses and the patients and identifying the common health issues being addressed.
- To find any correlation between nurse-patient consultation and patient psychosocial outcomes.
- To interpret how the quantitative results build on, expand or confirm the qualitative results in relation to consultation experiences as perceived by the patients and the nurses.

1.6. Outline of thesis

Following the introductory chapter, the thesis is structured as below:

Chapter 2. Literature search strategy

The search strategies for this review are explained in this chapter. The keywords, the resources including the electronic databases and library holdings and the exclusion criteria are described. The systems to save the search results and create a

bibliography via Ref-work as well as the use of Turnitin to check any plagiarism are also explained. In addition to this, Zetoc has also been set up to alert of any new information related to the subject area.

Chapter 3: Consultation models and development in diabetes nursing

This chapter addresses the discourses indicated in the research title. To start with, the definitions and terms which are being used in this study are clarified. These include definitions of diabetes (WHO, 1999) and the profile or characteristics of people living with diabetes (ERPHO, 2008; APHO Diabetes Prevalence Model, 2009, UK National Statistics, 2011; The NHS Information Centre for Health and Social Care, 2011, Peterborough Health Profile, DH., 2011; YHPHO Diabetes Prevalence Model, 2012). In addition, any factors which contributed to the development of Diabetes Specialist Nurses (DSNs) and their extended roles including delivering diabetes consultation are reviewed (Training Research and Education for Nursing in Diabetes /TREND-UK, 2010).

The following exploration reviews different models of consultation, from Balint (1957) to Kurst and Silverman (2006) (General Practice Notebook Inventory, 2011; Usherwood, 1999; Pendleton, Schofield, Tate and Havelock, 2003). Due to a wide selection of consultation models, only a few of them are critically examined and whenever relevant, linked to consultation in diabetes.

Chapter 4: Essential skills for effective nurse-patient consultations

Although this study is not intended to assess consultation skills, it is important to consider the pattern or process of consultation and its outcome. Therefore, this chapter reviews essential knowledge and skills which are required in delivering an

effective consultation such as history taking, physical assessment, clinical reasoning and problem solving (Hastings and Redsell, 2006; Priharjo, 2007; Young, Duggan and Franklin, 2009), and establishes a diabetes consultation model to guide the present study.

Chapter 5. System theory and conceptual framework

This section explains the conceptual framework of this study. The framework was structured based on a review on system theory, consultation models, information from diabetes specialist nurses at the Annual Diabetes conferences, meetings with the founders of Calgary-Cambridge consultation structure and correspondences with Mercer and Howie; the Authors of the Consultation Quality Index (CQI-2).

Chapter 6: Methodology

This chapter discusses and justifies the use of mixed methods to conduct research. There might be three or four sub-headings in this chapter. The first section gives an overview on the development of research in health and social care, particularly nursing. Relevant nursing research texts are used to give an overview of the development of research in nursing. The second part gives critiques on traditional paradigms. The main characteristics of positivism and constructivism paradigms (methodology) are reviewed and followed by a comparison between quantitative and qualitative approaches (Miles and Huberman, 1994; Lincoln and Guba, 1994; Denzin and Lincoln, 2008). Some examples of diabetes research conducted qualitatively and quantitatively are included. The third part focuses on pragmatism in applying use of both quantitative and qualitative research. The concept of mixed methods is further analysed by considering some essential texts such as 1). Tashakkori and Teddlie (2009); 2). Andrew (2009); 3). Creswell and Plano Clark (2010) and 4). Hesse-

Biber (2010). In this PhD study, a sequential single design was used, firstly by conducting qualitative study, followed by quantitative phase. Many mixed methods scholars have suggested the use of the terms QUAL-QUAN to indicate the sequence of qualitative followed by quantitative investigation. The reasons to use this sequential exploratory design are clearly given. Creswell (2009) indicates that in this design, the weight is usually placed on this first phase. Qualitative investigation can also be utilised to generate theory or specific theoretical constructs (Hesse- Biber, 2010). Within this research this stage is expected to explore the views of adult patients and diabetes specialist nurses on their consultation. The second phase (quantitative) is conducted to expand the findings obtained from the first phase (Creswell, 2012).

The methodology review also covers the ethical issues that might be faced by the researcher throughout the process of data collection and analysis. Some relevant texts can be used to support the ethical issues of mixed methods such as Rodgers (2007) and Creswell and Plano Clark (2010).

Chapter 7: Findings from qualitative investigation (QUAL)

The results are presented in three subheadings: 1) Results from the interviews with the patients, 2) Results from the interviews with the DSNs and 3) Results from the observations of nurse-patient consultations. The qualitative results consist of a set of themes obtained from patients' interviews and another set of themes from interviews with the nurses and a third set derived from nurse-patient consultations. The results from these three different methods are looked at carefully. Any findings which suggest further investigation by the quantitative stage are clearly explained.

Chapter 8: Findings from quantitative investigation (QUAN)

The findings from the quantitative phase are presented as descriptive statistic reports. Where appropriate, correlations between variables such as information giving, partnership, empathy and the outcome are measured and reported using inferential tests.

Chapter 9: Integration and interpretation of qualitative and quantitative findings

In this stage, results from QUAL and QUAN are compared/ contrasted or integrated. Any contradiction between QUAL and QUAN are noted. The procedure of interpretation of the findings will be guided by Andrew (2009), Hesse-Biber (2010), Creswell and Plano Clark (2010) and Creswell (2012).

Chapter 10: Discussion

This chapter discusses what has been found and how the results contribute to or contradict the existing theories. The discussion mainly focuses on the following aspects: Views from patients and their experience with regards to diabetes consultation; views from DSNs and their experience in delivering consultation; the pattern of nurse-patient consultation and the levels of empathy and other related variables in the consultation.

The researcher's reflexivity is included by evaluating this mixed method project using a framework from Hesse- Biber (2010). In addition to this, any limitations of the study are clearly mentioned.

Chapter 11: Conclusion

This last chapter indicates how the aim of the research project has been fulfilled.

Any relevant findings and key point arguments in discussion are highlighted.

Limitations of the study are also explained, followed by the implications and recommendations to practice, nursing education and research are given. This chapter is ended by a personal reflection which shows the journey through this PhD project.

Chapter 2 LITERATURE SEARCH STRATEGY

This chapter starts by an explanation on how the literature search was conducted.

The method in literature search is clearly explained by indicating the main keywords, the initial search, any databases and then other literary sources including conference papers and policies or publications from the government and other institutions.

Initially, the search was started by looking at books, E-books and multimedia materials from the university library search. Using a key word '*consultation*' as a title, it gave 146 titles, however after checking the titles carefully, only 9 of them were relevant. Other keywords were also used to capture similar topics such as '*patient interaction*' which resulted in 6 texts and also '*interpersonal*' which showed 136 texts, of which 54 of them could be considered. The search was expanded by using similar keywords to search the British Library collection, however further results were minimal. Therefore, searching the British Library collection was considered only when the collection of books or articles held by the university library was small. For example, using the keywords '*consultation model*' to search the book collection, 29 titles were obtained but none of them were relevant, whereas when '*interpersonal*' and '*nurse*' key words were used, only 3 books were found.

The search then expanded by using a variety of databases: The Cumulative Index to Nursing and Allied Health (CINAHL), MEDLINE, EBSCO, British Nursing Index, ProQuest, the Cochrane library and other databases such as Journals@Ovid Full Text and educational databases which are available within the university digital library services. A variety of keywords were used separately or in combination during the search process. The keywords were *consultation*, *consultation model*, *diabetes*,

nurses, nursing, roles, diabetes specialist nurses, advanced clinical practitioner, advanced practice, communication, interpersonal, nurse patient interaction, nurse patient communication, diabetes competency framework, structured education, empowerment, motivational interviews, empathy, depression, decision making, history taking, physical assessment. Only those articles which were relevant to Diabetes Specialist Nurse (DSN) and which also covered communication or interaction within the consultation context were considered and exported to the Ref work bibliography system.

The search was also performed to find out the literary sources on diabetes mixed methods articles . It is not easy to accurately estimate the number of mixed methods papers as some researchers might use other terms such as triangulation, multi methods, or a combination of qualitative and quantitative. The following table (Table 1) indicates that Medline database holds more quantitative research compared to qualitative or mixed methods. The record is in contrast compared to CINAHL. By narrowing the range of the publication years between 2001- 2011, CINAHL produces 557 hits (keywords: diabetes + quantitative) and 839 hits (keywords: diabetes + qualitative) and 22 hits for mixed methods. The record from ProQuest shows a drastic number of mixed methods research. It needs to be noted that Medline predominantly records medical articles, whereas CINAHL is more nursing oriented. ProQuest holds not only health care related articles but also other disciplines such as linguistic, biology, electronic and communication.

Database	Keywords	Number of hits
Your journal ovids	Diabetes + quantitative (All years)	912
	Diabetes + qualitative (All years)	614
	Diabetes + mixed methods (All years)	26
Medline	Diabetes + quantitative (1947-2011)	5087
	Diabetes + qualitative (1953-2011)	1525
	Diabetes + mixed methods (1977-2011)	28
CINAHL	Diabetes + quantitative (1986-2011)	618
	Diabetes + qualitative (1987-2011)	996
	Diabetes + mixed methods (2001-2011)	22
Pro quest (31 databases)	Diabetes + quantitative (All years)	9449
	Diabetes + qualitative (All years)	2711
	Diabetes + mixed methods (All years)	1288

Table 1 Number of articles showing the utilisation of mixed methods in diabetes research.

The table gives an indication of the implementation of the different research approaches. Care needs to be taken in understanding the figure as not all mixed methods researchers use '*mixed methods*' in their publication titles or key words.

In the early search, studies or texts focusing on consultation models and advanced nursing practices were included and examined in order to find the history and development of consultation. Texts which were published outside of the UK, particularly the USA, were considered so that a comparison of consultation models and advanced clinical practices could be made. Later, in the search for selected aspects of diabetes consultation delivered by DSNs, only studies within diabetes and related to diabetes specialist nurses were utilised. The exclusion criteria were:

- Studies or texts outside of the diabetes consultation

- Studies focusing on children with diabetes
- Studies which were conducted before the PREP Handbook (United Kingdom Central Council for Nursing, Midwifery and Health Visiting /UKCC, 2001) were not included.

Apart from using databases as mentioned above, search engines were also used to find out relevant materials online. Academic search engines and '*Google Scholar*' were utilised to find online published articles or books which were not available at the university library or on digital databases. Google search engines were also used to check trends or common issues related to the research area. This search engine was also selected to find web addresses or links to relevant institutions such as the World Health Organisation (WHO), International Diabetes Federation (IDF), Department of Health, the local Trust, Diabetes UK, National Institute for Clinical Excellence (NICE), NHS Diabetes and Training, Research and Education for Nurses on Diabetes (TREND-UK). Relevant presentation papers, abstracts or hard copies obtained from Diabetes UK annual professional conferences; mixed methods conferences and conversation analysis training were also electronically or manually investigated. Appendix 1 lists the results (hits) obtained from searching the sources from the selected databases.

The literature search was also supported by the use of Refworks to create a personal database, a bibliography and reference list. Zetoc Alert was also created in order to get emails listing the table of contents from certain journals and articles that match searches for authors names or selected keywords. Throughout the writing process, the originality of the paper was checked by Turnitin software.

The extensive search produced a good selection of literary sources to confirm the gap in knowledge (limited research focusing on diabetes consultations conducted by nurses). The literature obtained from the search was then synthesised in relation to the rationale for the research topic selection, and also helped in deciding the research methodology (further details are available in Chapter 6).

Chapter 3 CONSULTATION MODELS AND ITS DEVELOPMENTS WITHIN DIABETES NURSING

This is the first of two literature review chapters which offers an extended review on relevant aspects of nurse patient consultation in diabetes care, and evidences the field of diabetes consultation, together with clarifying the position of this PhD research project among these selected sources and the knowledge of diabetes. The material is presented in 2 main sub-sections: the role of the nurse in diabetes care and models of consultation and selected aspects of consultation delivered by Diabetes Specialist Nurses.

3.1. The role of the nurse in diabetes care

The role of the nurse has changed and been expanded throughout the history of health care. This can be traced back to time before the 19th century, when nurses were commonly uneducated or did not have formal training until the first nursing training (the Nightingale School) was set up at St Thomas' Hospital in 1860, funded by the public (London Metropolitan Archives, 2008). Hallett (2010) summarised the history of nursing at that time and includes contributions from Florence Nightingale. From 1860 to 1990's the nursing profession in the UK experienced many changes in its role and regulation which were affected by both political and social aspects, including the two World Wars, migration and the discovery of drugs such as penicillin and use of sterile supplies.

The history of clinical specialisation in nursing in the UK is different to that which has been reported in other countries. For example, the USA started this specialisation

earlier with Peplau in the 1940s, when psychiatric clinical nurse specialists started to be employed. It was then followed by Reiter who used the term '*nurse clinician*' rather than '*nurse specialist*' in 1943 (Peplau, 1965; Reiter, 1966; Menard, 1987). In 1956, the concept of clinical specialisation was formalised at the Working Conference on the Education of Clinical Specialist in Psychiatric Nursing in Williamsburg, Virginia. The American Nurses Association (ANA) in a 1965 position paper announced that the CNS (Clinical Nurse Specialist) title could only be used by nurses with a master's degree in nursing (M.S.N., M.N., M.S.) or higher.

In contrast, according to Biddulph (1976), the specialist nurses started to emerge in the UK in the mid-1970s, when Manchester Royal Infirmary appointed Ruth Martin to work as a clinical nurse specialist. She preferred to be an expert in her field and did not want to change her job as a nursing officer, a post which at that time was created to follow the Salmon management model, which was for those with knowledge and skills above that of ward sister. Ruth practiced as a specialist nurse in an era which Castledine (2004) names as a '*first generation*' of nurse specialists. The roles were left to individual expertise and innovation and there was no education preparation, job description, audit or evaluation.

In the early 1990s, there were some dramatic changes to the health care system in the UK, particularly with the '*New Deal*' for junior doctors (National Health Service Management Executive, 1991) which initiated the transfer of certain procedures, traditionally carried out by doctors to nurses. More recently, government programmes or white papers, including the Modernising Nursing Career (Department of Health, 2006) and Lord Darzi's High Quality of Care for All (2008) influenced radically the progression of specialisation in nursing.

Responding to these demands, nurses in the UK needed to enhance their practice by moving from basic or general to more advanced practices. There was a need to define and clarify the scope of specialist nurses. For example, the Chief Nursing Officer's '*ten key roles*' for nurses in England (Department of Health, 2000) listed certain tasks which nurses could deliver, such as ordering diagnostic investigations, prescribing medications and performing minor surgeries. This was an era Castledine (2004) considered as being the '*second generation*' of specialist nurses. The next session discusses the development of clinical specialists in more details.

The concept of advanced and specialist nursing practice in the UK was firstly and formally mentioned in the PREP (Post-Registration, Education and Practice) document (UKCC, 1994) in which the specialist practice was indicated as '*a type of specialized clinical role*'. This definition seemed to be so brief and in the document there was no mention about the scope of specialist nursing practice and the education preparation. The Standards for specialist education and practice published in 2001 by the UKCC gave a better definition in which specialist nursing was explained as "*the exercising of higher levels of judgement, discretion and decision making in clinical care*". Four broad areas were included in the scope of specialist practice: clinical practice; care and programme management; clinical practice development and clinical practice leadership.

Over the last few years, the definitions of advanced practice have been formally provided by other organisations such as the International Council of Nurses (ICN, 2002), the Royal College of Nursing (2008) and Skills for Health (2007). Table 2

lists some definitions of advanced and specialist practices from a number of selected sources.

Authors	Definitions
United Kingdom Central Council for Nursing, Midwifery and Health Visiting (2001)	Specialist practice is the exercising of higher levels of judgment, discretion and decision making in clinical care. Such practice will demonstrate higher levels of clinical decision making and so enable the monitoring and improving of standards of care through:- supervision of practice; clinical audit; development of practice through research; teaching and the support of professional colleagues and the provision of skilled professional leadership.
International Council of Nurses and International Practitioner/Advanced Practice Nursing Network (INPAPNN) (2002)	A Nurse Practitioner/ Advanced Practice Nurse is a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice. A Master's degree is recommended for entry level.
Royal College of Nursing (2008)	A registered nurse who has undertaken a specific course of study at least first degree (Honors) level. The definition also describe the role of the nurse such as making autonomous decisions, assessing patients based on highly developed nursing skills and other skills such as physical examination, screening, making differential diagnosis, planning care, ordering investigations, giving support, counseling, discharging patients, working collaboratively and providing leadership and consultancy.
Skills for Health (2010)	<p>Advanced Practitioners (Level 7) are experienced clinical professionals who have developed their skills and theoretical knowledge to a very high standard. They are empowered to make high-level clinical decisions and will often have their own caseload. Non- clinical staff at level 7 will typically be managing a number of service areas.</p> <p>Specialist/ Senior Practitioners (Level 6) are people who have a critical understanding of detailed theoretical and practical knowledge, are specialist and/ or have management and leadership responsibilities. They demonstrate initiatives and are creative in finding solutions to problems. They have some responsibility for team performance and service development and they consistently undertake self-development.</p>

Table 2 Selection of definitions of nurse specialists and advanced practice.

Comparing the above definitions, it can be argued that there is still no universal consensus on the title; even the AANPE UK (Association of Advanced Nursing Practice Educators) does not mandate the definitions of Advanced Nursing Practice, Advanced Clinical Nursing Practice or other titles such as Advanced Nurse

Practitioners. In their webpage, they quote the definitions from ICN and Skills for Health. The definitions from the above organisations suggest similarities in expectations such as '*an expert knowledge base*', or '*high knowledge*', '*experienced*', '*leadership*' and '*management*'.

Efforts in the UK are now in progress such as those initiated by the Knowledge Network (NHS Scotland) which is the national knowledge management platform for health and social care managed by the Knowledge Services Group UK and aiming to promote understanding, the role of advanced practitioners, benchmarking, research, education and leadership. They have defined '*advanced practice*' as all the practice roles at the level of initial practice and covers both the '*specialist*' and '*consultant*' roles (NHS Education for Scotland, 2008), whereas Skills for Health (2010) in their key elements of career framework differentiated the careers in 9 levels, from the first level (Cadet) to level 9 (Director). As mentioned in Table 1, the specialists are at level 6, while the advanced practitioners are at level 7 and consultants at level 8. NHS Education for Scotland (2008) suggested using the title '*Senior Practitioner*' rather than '*Specialist*' for Level 6 people. Looking at their definitions, the specialists, advanced practitioners and consultants all have clinical or management responsibilities. However, in terms of providing consultation to patients, this duty is not clearly explained. The definitions seem to cover the types of practitioners expected to practice at this level, although they do not include a statement about educational preparation (See the definition released by the ICN). This could create confusion in relation to the standard of educational preparation and practice.

The development of advanced practitioners as mentioned above has a close link with the progress and role of the Diabetes Specialist Nurse (DSN). In the latest

publication, TREND UK (2010) claimed that the role of the Diabetes Specialist Nurse was introduced more than 70 years ago. It should be noted that this earlier introduction actually happened in the USA, whereas in the UK, it only became apparent following the Post-Registration, Education and Practice publication (PREP) publication in March 2001.

In the PREP (UKCC, 2001), specialist nurses are expected to exercise higher levels of judgment, make clinical decisions, monitor and improve standards of care, develop and lead practices, contribute to research together with teaching and supporting the staff. In addition to this, there are other expectations of the specialist nurses and the advanced practitioners in which they should be able to adjust the boundaries for the development of future practice, pioneer and developing new roles, manage changing needs and enrich professional practice as a whole.

Following the publication of PREP, the majority of Trusts in England started to employ specialist nurses and advanced clinical practitioners. Mc Gee, et al., (1999) conducted a survey of both these professions in 371 Trusts. The aim of the survey was to investigate the expectations of senior personnel regarding the role and to develop baseline data. Although the survey was conducted more than a decade ago, it is necessary to be mentioned as the report highlighted the expectations, such as performing their clinical work, and also focusing on the clinical tasks traditionally belonging to doctors. This survey identified the common areas of practice of both the specialist nurses and advanced practitioners in the early 2000's when the posts of specialist nurses and advanced nurse practitioners started to be introduced to the NHS Trusts (see Table 3).

Specialist Nurses		Advanced Nurse Practitioner	
Macmillan nursing	551	Palliative care	131
Diabetes	355	Pain	127
Health visiting	300	Stoma care	127
Mental health	274	Respiratory medicine	123
Continence	199	Tissue viability/ wound care	121
Paediatrics	189	HIV/AIDS	117
Breast care	184	Nurse practitioners	94
Infection control	157	Oncology	92
Child protection	157	Urology/genitourinary	91
Drugs and alcohol	134	medicine	75
District nursing	132	Asthma	

Table 3 Most common areas of practice (Mc. Gee, et.al., 1999).

In the above table, Diabetes Specialist Nurses (DSNs) are placed second in the list, which indicates the higher demands of diabetes specialist care to meet the service demands in this area. Other specialisations, such as cancer and mental health, appear to be in high demand too. As clarified by the authors, this report is slightly different compared to the document published in 1996, particularly with the inclusion of district nurses, mental health nurses and health visitors.

There are a number of competency frameworks available in the UK which have been developed to help individuals with their professional development/appraisal as well as in designing or redesigning the role. These frameworks indicate criteria to be implemented in diabetes care, for example those frameworks published by Skills for Health in 2005, the Diabetes Nursing Strategy Group (2005) and the competencies from the NHS Quality Improvement Scotland (NHS QIS) Clinical Standards for Diabetes in Scotland which was launched in 2003. Unfortunately, although all these frameworks have clearly indicated criteria which needs to be implemented, they do

not specifically formulate the way in which the competencies of the nurses, working in the capacity of diabetes specialist nurses/nurse consultants, should be maintained and assessed. For example, in their competency statements published in 2005, the Diabetes Nursing Strategy Group considered '*reviewing medication and ensuring that appropriate changes are made*' as part of Senior Practitioner/ Expert Nurse Competency. Another document published in 2005 by the Royal College of Nursing '*NHS Knowledge and Skills Framework*' outlines for the nursing posts indicates communication, personal development and learning and development as three core dimensions of skills and knowledge which should be possessed at Level 4 for Clinical Nurse Specialists. Moreover, there is no clear indication of what constitutes best practice in the area of consultation.

The Diabetes Competency Framework 2nd edition (Training Research and Education for Nurses on Diabetes - United Kingdom /TREND-UK, 2010) was published to update the first document due to the changes in the nurses' role. Within this publication, all relevant competencies were mapped against those published by Skills for Health (2009). The framework identifies five levels of nurses from unregistered practitioner to consultant nurse, and this document tries to differentiate the roles and competencies of nurses from these different levels. Table 4 summarises the roles of nurses in diabetes care as highlighted in the framework.

Purpose of diabetes nursing	All nurses *)	Practice Nurses	Diabetes Specialist Nurses	Nurse Consultants
<p>To make a difference in the lives of people with diabetes.</p> <p>To promote and maintain the health of people with diabetes.</p> <p>To promote understanding and awareness of diabetes.</p> <p>To provide high-quality, person-centred care and services.</p> <p>To help people with diabetes to be confident to self-manage and to be as independent as possible.</p> <p>To maintain a good quality of life for people with diabetes (Cited from Diabetes Nursing Strategy Group, 2005)</p>	<p>Being person-centred.</p> <p>Undertaking evidence-based practice.</p> <p>Equality, diversity and rights.</p> <p>Multi-skilled interventions, treatments and therapies.</p> <p>Practice expertise.</p> <p>Improving patient experience and outcomes.</p> <p>Developing individual and team effectiveness.</p> <p>Developing a culture of effectiveness.</p> <p>Developing one's own practice and that of others.</p> <p>Facilitating individual, group and team learning.</p> <p>Clinical leadership and management in practice.</p> <p>Managing settings and the service.</p> <p>Undertaking research and evaluation in practice.</p> <p>Providing expert and process consultancy (Cited from Manley, 2001).</p>	<p>In addition to *)</p> <p>More specific roles:</p> <p>If new in post, undertake a tailored introduction to diabetes care programme, then further diabetes training.</p> <p>Have a minimum of 6-12 months experience in diabetes care.</p> <p>Have access to diabetes-specific CPD.</p> <p>At basic level:</p> <p>Provide appropriate materials for patient support, education/ life style advice.</p> <p>Recognise and treat diabetes emergencies.</p> <p>Be aware of, and work within good policies and procedures for diabetes care.</p> <p>Known when to refer on for specialist advice.</p> <p>High level of diabetes care:</p> <p>Completed an accredited training course in diabetes care at the diploma or higher level.</p> <p>Undertaken an accredited training programme in the initiation and management of insulin.</p> <p>A minimum of 2 years' experience.</p> <p>Access to training around management, leadership and teaching skills.</p>	<p>In addition to *)</p> <p>Qualification:</p> <p>New in post:</p> <p>Registered Nurses, minimum 3 years' experience, a great interest in diabetes, teaching and counseling (Cited from Castledine, 1991).</p> <p>Senior DSNs: have practiced as DSNs for a minimum of 3 years, be willing to undertake a diabetes diploma or a related degree (Cited from Castledine, 1991)</p> <p>More current requirements: to have or be working towards, a degree level. For a senior post, it is expected to be working towards or to have a Master's degree (Cited from DH, Agenda for</p> <p>Change: National Job Profiles (DH, 2005), Towards a Framework for Post Registration Nursing Careers (DH, 2007) and Diabetes UK, in press.</p>	<p>In addition to *)</p> <p>Expert practice.</p> <p>Practice development.</p> <p>Leadership.</p> <p>Lifelong learning.</p> <p>Research and development.</p> <p>Consultancy.</p>

Table 4 The nurses' roles in diabetes care and the required qualifications (TREND UK., 2010).

The challenge is how to formalise these scope of practice and education requirements. Further discussions on these aspects are given in the following sections.

The scope of practice and competencies of DSNs in the UK seems to be continuously developed and evaluated by diabetes scholars. For example James, et al. (2009) conducted a survey for Diabetes UK in 2007 to review the working practices of UK DSNs, their specific clinical roles and to explore any changes since 2000. This project conducted by NHS Diabetes Workforce and Diabetes UK also aimed to produce a database of the number of DSNs and Nurse Consultants practicing in the UK, as well as information about their work settings and roles. The summary from James, et al. (2009) mentioned that they received 238 separate job titles, of which 76% were Diabetes Specialist Nurse and 2.3% were Nurse Consultants. According to this survey, the DSNs' role has expanded since 2000, and nowadays, they are involved in a complex service provision, specialist clinics, together with delivering education to other healthcare professionals and patients (Table 5).

	Hospital DSN (N=132, %)	Community DSN (N= 104, %)	Paediatric DSN (N= 67, %)	Nurse Consultant In diabetes (N=29, %)	P
Patient management	99	96	93	76	
Prescribing	49	56	27	66	
Non-medical prescribing	47	46	9	55	
Dose adjustment only	68	62	63	17	
Pump training*	55	36	43	21	0.003
Hypertension clinic*	22	11	5	21	0.019
CVD	30	20	3	28	
Foot clinics*	34	14	2	10	0.000
Renal clinics*	27	9	2	14	0.000
In-patient work*	98	36	54	24	0.000
Ante-natal clinics*	72	41	12	35	
Pre-assessment clinics prior to surgery*	23	5	0	7	0.000
Education for nursing staff*	98	89	88	90	0.007
Education for medical staff*	92	81	73	76	0.008
Education for other allied healthcare professionals	91	91	70	79	
Education for patients	93	95	75	76	
*Significant differences between hospital DSN and community DSN.					

Table 5 Specific roles undertaken by DSNs (James, et al., 2009)

The table above gives more details of information compared to the figure from McGee, et al., (1999). The diabetes nurses are clearly differentiated into four posts: Hospital DSN, Community DSN, Paediatric DSN and Nurse Consultants. All types of DSNs are involved in patient management. Community DSNs seem to prescribe more than Hospital DSNs but are involved less in the running of clinics. The hospital DSNs deliver education for staff slightly more than the community DSNs, but teach the patients slightly less. In general the paediatric DSNs also involved in all the areas, but the frequency is less with the exception of delivering pump training. The nurse consultants are also involved in all areas, but overall the frequency is lower compared to the DSNs, with the exception of non-medical prescribing. It might be

possible that they are involved in other roles such as management, quality audit or research which are not listed in the figure.

The results from James, et al., (2009) have given much important information about the wider role of DSNs, compared to the survey conducted in 1999 by Mc.Gee, et.al. The DSNs' services are delivered not only through diabetes clinics but also other clinics such as renal, antenatal, inpatient and post-operative/ pre assessment clinics. Overall, the DSNs are involved in patient management and nearly 50% of them are able to prescribe. The DSNs' contribution to enhance diabetes knowledge is not only limited to the nursing staff, but also to the medical and other allied health professionals. The survey has also clarified the establishment of the DSNs' roles within the health care system in the UK, although as realised by the authors, this survey was not free from limitations. The response rate was only 44 %. The questionnaires were only piloted one time and with 80 questions to answer in one survey, it is not surprising that the response rate was low. There might have been a conflict of interests which could have affected the result due to the fact that this survey was not conducted by an independent party but by a team who had a greater interest in diabetes.

In order to compare the roles of nurses as indicated in the above table in this literature review process, job descriptions of Diabetes Specialist Nurses from a number of hospitals in England were selected randomly and examined. In the selected trusts (York Hospitals NHS Trust, the Oxford Radcliffe Hospitals NHS Trust and NHS Shetland), the role of the Diabetes Specialist Nurse encompasses many activities. These include giving direct care to patients and their families, working with the lead Consultant Physician for diabetes services and other

consultants and GPs; providing clinical expertise, promoting and developing the growth of high standards of diabetes care, using their advanced knowledge and innovative practice in the district and education to all health care professionals and non-health care persons. The job descriptions from these selected trusts have helped in clarifying the roles of the DSNs and it appears that the descriptions match with the roles as indicated by TREND-UK (2010). Apart from generic roles, the specific role of DSNs in delivering diabetes consultation is also indicated clearly by TREND-UK (2010 p.6) as *“DSNs influence care indirectly through education of healthcare professionals and through models of mentorship and professional development. These may incorporate case note review, reflective practice of clinical delivery, and telephone and email consultations being accessed as an expert resource. DSNs deliver person-centred care, wherever that care is required, and influence care delivery at every stage of the person’s journey through life with diabetes”*.

Unfortunately, as these three hospitals (York Hospitals NHS Trust, the Oxford Radcliffe Hospitals NHS Trust and NHS Shetland) did not have any consultant nurse in diabetes, information concerning the diabetes nurse consultant job description could not be obtained. Birmingham Hospital NHS Trust provides a job description of consultant nurse diabetes which includes the core functions as indicated below:

- Enhancing the provision of diabetes care
- Providing expert practice
- Delivering education, training & development
- Conducting research, evaluation & service development
- Professional Leadership & Consultancy
- Management.

The above job description gives a better idea of the roles of diabetes nurse consultants in service quality improvement, education, research and management. However, compared to the roles of specialist nurses, some of them are also involved in these four fields. It seems that the scope of practice and the outcomes achieved by nurse consultants in diabetes needs further evaluation.

This subsection has reviewed that the increase in the complexity of health services, particularly diabetes care, has impacted on how the contributions to health care deliveries of the nurses needed to be enhanced. The areas of practice for the DSNs have been expanded since the introduction in the late 1990's and they are now involved in care management both in primary and secondary care settings, both prescribing and in the education of staff and patients. DSNs have a vital position in delivering diabetes consultations and to ensure that the approach is patient-centred based on the current evidence and the patients' choices and involvement.

The practical implications of the use of different modes of consultations including one to one and telephone and email consultations needs to be carefully considered. Therefore, a further review of these different ways of consulting or consultation models and how these have been implemented are given in the next section of this chapter.

3.2. Consultation models

Within the medical profession, 2007 was an important historical milestone, as this was the 50th anniversary of the introduction of consultation in general practice since its establishment by Michael Balint in 1957 (Lakasing, 2007). Following Balint's concept as explained in Chapter 1, other models of consultation were published from

Berne's transactional analysis in 1964 to the more current models, such as the Calgary-Cambridge Observation Guide by Kurtz and Silverman in 1998. In contrast, nurse consultation in the UK has not been established for the same amount of time having been developed over the last 10 years or so. For the last decade, studies in the area of nursing consultation seemed to focus on the scope of the consultation (Jeffery, et al.1995) or on the outcome (El-Gayar, et al. (2007) and only a few which aimed to investigate the consultation pattern or interaction (Hastings, 2006). The following parts of this chapter review a range of these consultation models.

Traditionally, the term '*consultation*' in health care services has been considered from the perspective of the GP or medical consultants. The majority of literature in this area focuses mainly on research in doctor-patient communication. However in the current health care practice, consultation has also been part of the roles of pharmacists, dieticians, nurses and other professionals. It is not easy to define consultation from the nursing perspective. There are definitions given by some dictionaries but these tend to be too general and perhaps are not based on empirical studies. That is why some texts focusing on communication skills for nurses, such as Edwards (2010, p. Viii) have taken a definition from the Chambers dictionary (Chambers, 2008) and described it as '*a deliberation, or a meeting for deliberation*' but then sought to relate it to nursing; Edwards (2010) defines consultation for practice nurses as '*the competencies and expertise to interact with patients in a deliberative manner*'. This definition seems to be unclear particularly due to the terms '*competencies*' and '*expertise*'. In general, the term '*expert*' is usually immersed in the level of competences or experience, for example Benner (1982) in her novice to expert continuum argues that the expertise of nurses can develop over time through a sound educational base and a wide range of experiences.

Hastings and Redsell (2006, p6) asked a critical question whether nurse-patient meetings should be classed as consultations. Their question is based mainly due to the use of different names of the nurse-patient meetings from area to area. In outpatients' clinic for example, it is commonly known as '*appointment*', in the community this is referred as '*visits*', whereas in surgical wards prior to any surgical intervention the meeting is called a '*pre-operative assessment*'. In the following development, the term consultation from a nursing context was stated in the Standards of Proficiency for Nurse and Midwife Prescribers (NMC, 2006). The booklet indicates consultation, history-taking, diagnosis, decision-making and therapy, including referral as domains of the principles of prescribing practice (NMC, 2006, p.p. 6 and 19). Unfortunately in this booklet, the definition of consultation is not provided but there is a clear hint that consultation should be linked with the context of prescribing. It appears that the definition of '*nursing consultation*' needs to be empirically defined. Within this PhD project, consultation is considered to refer to one-to-one meeting between a patient and a nurse/ Diabetes Specialist Nurse in a manner in which they mutually assess, plan, or evaluate diabetes care or management.

A number of authors have summarised or compared a range of consultation models which as indicated earlier were predominantly designed for medical personnel (Usherwood, 1999; Lakasing, 2007, IGP notebook). From all of these, perhaps Usherwood (1999) has produced the most comprehensive list so far. These models appear to have certain dominant characteristics, some are task oriented, process or outcome-based or skills- based. Other models focused on the doctor-patient relationship or views of the patient (Usherwood, 1999). Apart from Usherwood (1999), a list of consultation models has been created in the IGP Notebook starting

from the 1957 M Balint's model to the Calgary-Cambridge Model of Consultation (1996) as indicated in Table 6

Year	Authors/ Founders	Name
1957	M Balint	Doctor, His Patient and The Illness
1964	E Berne	Games People Play
1975	Becker & Mairnan	Sociobehavioural Determinants of Compliance
1975	J Heron	Six Category Intervention Analysis
1976	Byrne & Long	Doctors Talking to Patients
1979	Stott & David	The Exceptional Potential in Each Primary Care Consultation
1981	C. Helman	Disease vs. Illness in Gen Practice
1984	Pendleton, et al.	The Consultation
1987	R Neighbour	The Inner Consultation
1987	RC Fraser	Clinical Method: A General Practice Approach
1996	Kurtz & Silverman	The Calgary-Cambridge Observation Guide to The Consultation

Table 6 Selection of consultation models (IGP Notebook, 2011).

As indicated in the above table, the first recorded model was in 1957. Michael Balint and his wife were the first people who studied the interaction between GPs and patients in London. Because of their background as psychoanalysts, they were interested in exploring the psychosocial aspects of human interaction. Balint was pioneer of “*Balint groups*” at the Tavistock Clinic (now known as the Balint Society) which was set up for medical doctors with an interest in psychodynamics (Padel 1987 p.272). Balint's ideas are considered classic in general practice literature and the work from Balint and the doctors who attended his workshops remain of considerable importance, as they continuously examined the emotional content of the

clinical relationship. Unfortunately, apart from the acknowledgements given to the Balint group, this society has only attracted a small number of doctors and their popularity has declined for many years in the UK. This decline might be caused by the reduction in the whole- person approach in general practice as a consequence of being target –driven (Launer, 2007). It is therefore not surprising that the society today is not exclusively for medical doctors, but is also open to a number of different health professionals including nurses.

The Tavistoc Clinic has introduced a ‘Post-Balint’ approach to case discussion. They use a variety of issues selected from narrative-based medicine, systemic therapy and from the current situations of postgraduate GP training (Launer, 1997). The approach basically uses micro-skills teaching to train consultation skills. The evaluation can be conducted either in the form of formal or informal supervision. As indicated earlier, the Balint society has also attracted nurses; however there are only a small number of studies reporting the implementation of Balint approach by nurses and all of them were published before 2000 and published outside of the UK (Sulmoni, 1993, Husson and Wrobel, 1999). As there is no evidence of the use of the Balint approach by diabetes nurses, it can be argued that this approach is irrelevant.

Table 6 also includes many other contributions to consultations in general practice of whom Eric Berne (1910- 1970) is one. The approach from Berne was selected due to a similar background he had as a psychoanalyst and who had an interest in interpersonal relationships. His transactional analysis (TA) theory was based on an assumption ‘if one person does something to another person (2nd person) then the 2nd person is expected to do something back’. This approach consisted of three ego states of the people engaged in interaction: the Parent, Adult, and the Child state. He

named the interpersonal interactions as '*games*' which referred to particular patterns of transactions which could happen repeatedly in everyday-life. Compared to Balint's concept, the approach from Berne focused more on how the equality of two parties had engaged an interaction, whereas the Balint concept is more interested in exploring the patient's and doctor's feelings and gaining new perceptions to enhance interactions. The position as Parent, Adult or Child can happen in any interaction. For example, one party might be adopting a parental mood (nurturing or controlling) and the other party might be in a child-like mood (rebellious, conforming). According to Berne (1966), these types of behaviours are learnt from our parents. Therefore, having a good childhood experience with caring and nurturing parents could help to shape the adulthood role in the interaction. Berne's transactional analysis (TA) has been used in examining transactions in health care settings.

There are suggestions from nurses, and also made to nurses, that the use of TA would help in interacting with the patients (Brown, 2003; Tate, 2005; Warner, 2006). However, these suggestions are based on personal opinions and have never been tried in a real situation. Therefore it is still unclear how Berne's theory could be applied in nurse-patient interactions. From all these Authors, Brown (2003) is the only person who links her arguments with diabetes consultation. In the interaction, the nurses may use the adult mode and so often the patients may behave in a child-like mode. The nurse-patient interactions observed in this PhD research may clarify this preposition.

Some other consultation models such as those designed by Pendleton, et al. (2003) and Kurtz, Silverman and Draper (1998) are further discussed in the following sections, as these models were developed in the UK and have been widely adopted

across the country. The consultation approach designed by Kurtz, Silverman and Draper (1998) have also been adopted and quoted by the Royal College of General Practitioners in their Curriculum Statement 2 (2011).

Pendleton, et al. (2003, p.48) stressed the importance of understanding the differences between tasks, strategies and skills in any consultation. Tasks refer to the purposes or goals of consultation which comes from the patient's needs and the doctor's aim. Strategies involve the plan or approaches, and skills are behaviours which can be observed. He explained seven tasks within the doctor-patient consultation which include: 1) to understand the reasons for the patient's attendance, 2) taking into account the patient's perspective, to achieve a shared understanding, 3) to enable the patient to choose an appropriate action for each problem, 4) to enable the patient to manage the problems, 5) to consider other problems, 6) to use time appropriately, and 7) to establish or maintain a relationship with the patient that helps to achieve the other tasks (Pendleton, et al., 2003, pp.52-61).

Pendleton's consultation framework has been used in nursing, for example Harper and Aja o (2010) in their research observed how this model guided a community matron in assessing a patient with COPD. The reason for adopting this framework was because of its components, which are especially relevant to the management of chronic conditions, and include self- management, empowerment and partnership working. These authors conclude that the benefits of using the framework also include its practicality to be followed. However, it was not easy for them to evaluate the relationship between the patient and the nurse. They recommend that the model needs modification in order to suit the needs of the practice area. The findings and

recommendations from Harper and Ajao, et al., (2010) also need to be considered and implemented with caution, as they were obtained only from one case study.

Similarly, Pendleton's consultation models have been utilised in diabetes nursing consultation although only in the form of small case studies. Wallymahmed and MacFarlane (2003) review the essential aspects of the Pendleton model, which stresses two way communications between the patient and the health care professional and also the importance of listening and understanding the patient's perspectives. However, in their diabetes case study, they used the three function model from Cole and Bird (2000) which consists of building the relationship, collecting the data and agreeing the management plan due to its practicality. Other nurses case studies, such as from Morrison and Weston (2006), indicated some benefits of using Pendleton's approach including agreeing the care plan and partnership with the patient. These reports suggested that some attempts had been made to follow Pendleton's model in diabetes nursing consultation, although a larger project was required to test its applicability.

Kurtz and Silverman (1998) developed the Calgary- Cambridge guide to the medical interview- communication process. They divide consultation tasks into five stages: Initiating the session, gathering information, building relationship, explanation and planning and closing the session. Their framework has been used widely as a tool to teach and assess medical students in conducting the consultations. Some authors suggest the use of this model, due to its practicality and as it is less complicated to follow in most clinical settings (Munson and Wilcox, 2007; Kaufman 2008). Other authors such as Young, Duggan and Franklin (2009) reviewed consultation models including the Calgary-Cambridge framework, but unfortunately apart from listing

components of consultation, there is no clear exploration on how nurses could use the information obtained from the patients.

The Calgary-Cambridge consultation guide has attracted practitioners from different care settings (Munson 2007; Kaufman 2008). As part of the literature process, two personal meetings between this Author and J. Silverman, the Founder of Calgary Cambridge consultation guide were arranged. In these meetings, he explained to the Author the use of his model to assess consultation skills and permission for this PhD research to use this model was given. However, following consultations with the research supervisory team and as indicated in the Methodology Chapter, it was confirmed that this research **would not aim to assess consultation skills but to explore the experiences** of nurses and patients in diabetes consultation and the consultation pattern.

Usherwood (1999 p.61- 72), reviewed discourse in the consultation. He argued that consultation between the patient and doctor in general practice is more focused on diagnosis and assessment, rather than the consultation in the medical out-patient clinic. In his further explanation, Usherwood (1999) explained several perspectives including diagnostic and prescriptive styles, by considering the work from Byrne & Long (1976), Asymmetrical conversations (Frankel, 1989; Psathas, 1995), the hermeneutic circle (look at the work of Little, 1995) and telling and listening to stories (based on the work of Launer, 1996 on social approach to family medicine).

The pattern which followed in the diagnostic and perspective styles consisting of the following activities: gathering information, analysing and probing, clarifying and interpreting, listening and reflecting. The way that the doctor approaches the patient

is mainly one way and options on the treatment and any decisions are made by the doctor. Similarly, the asymmetrical approaches are characterised by inequality of power sharing which affects the patient- doctor interaction and decision making. In the hermeneutic circle, the main important aspect is to expect doctors to bring their listening skills to the consultation and understand what the patient is saying and what the reports are communicating. The telling and listening of stories in a consultation are maintained in a different form in which doctor and patient spend the majority of the time relating each other life stories or experiences and whenever possible, the doctor can facilitate the interaction by using open-ended questions to elaborate, recomplete or clarify statements. This last style as indicated by Usherwood (1999) appeared to be patient friendly although this could present difficulties in a busy clinic.

Comparing the above styles of consultation, it seems the first two are characterised by prescriptive approaches and asymmetrical partnership which is inappropriate for the current expectations of practice. In diabetes consultation, it has been widely accepted that the consultation should be patient centred (TREND-UK, 2010), consider a shared ownership in decision making (Department of Health, 2007) and stress the patient's empowerment rather than a feeling of being vulnerable (Werner and Materud, 2005).

The concept of empowerment stresses the importance of partnership in decision making which can be achieved through an agreed and shared care plan. It is also vital that people can access their own health records and general information. There are many initiatives at national or local levels which have been introduced in the UK which are aimed to support or empower people with diabetes. NICE (2003)

published guidelines on patient education in diabetes and they highlight the importance of diabetes structured education and self-management. Education packages available for people with diabetes include the X-PERT Programme created by Trudy Deakin. Two other main national programmes are DAFNE (Dose Adjustment for Normal Eating) for people with Type 1 diabetes and DESMOND (Diabetes Education and Self-Management for On-going and Newly Diagnosed) for people with Type 2 diabetes. Locally, there are similar programmes for example in Peterborough; the PCTs deliver PDAC (Peterborough Dose Adjustment Course) which targets people with Type 1 Diabetes.

A range of studies have been conducted to measure the effectiveness or outcome of the programmes in the form of self-care or self-management. For example Deakin, et al., (2006) reported the positive outcomes of the X-PERT Programme as indicated by the increased in skills, knowledge and confidence of people with diabetes. Another example is a randomised effectiveness trial conducted by Naik, Teal, Rodriguez and Haidet (2010) which showed greater knowledge of diabetes ($P < 0.0001$), greater knowledge of their own values ($P < 0.0001$) and greater knowledge of the diabetes care guidelines ($P < 0.0001$) following an education intervention.

It is important to note that the positive outcome of providing empowerment and structured education are not free from a variety of implementation issues. Anderson and Funnel (2005) in their review tried to observe the complexity of implementing empowerment within diabetes care. For example, they examined the paradigm of empowerment by considering its barriers using Thomas Kuhn's classical work on the structure of scientific revolutions. They argued that the majority of barriers are related to the understanding or individual interpretation, timing unawareness and

political aspects. In order to minimise these barriers, they suggested that health care professionals should regularly engage in self-reflection and take a responsibility as an advocate for the patient-centred collaborative diabetes care.

Looking at the above evidence, the outcome in diabetes care in the form self-management both in the UK or overseas seemed to be commonly related to diabetes structured education. This can raise a question on the way outcomes can be achieved, from one to one consultation or even from other modes of face to face consultation, such as via telephone, text messages or emails. Some reports (Kim and Oh, 2003, Kruger et, al., 2003) have identified the benefits of the use electronic communication in consultation. Yet, Pasco and Neal (2003) from their small study have clarified general views from patients and nurses who believed that most of issues could not be discussed via phone or e-mail. This PhD study sought to reveal some useful information to show how the principles of empowerment would have been considered by the DSNs within their consultations.

This review of consultation models indicates some similarities and differences in the sequence or approach of consultations. All models seem to suggest how health care professionals should approach the patients from the initial to the end of consultation. They also considered the positions or modes of the practitioner and the patient. However, each model had their own focus and the details of sequence of the required steps were different. There were advantages and disadvantages in each model, therefore it was not easy to decide which models were more superior to others and as indicated by Lakasing (2007), there was no single ideal model to choose. There were attempts to implement certain medical consultation models in nursing and in diabetes care but in general, the scale was too small. As previously indicated, in the NMC

Standards of Proficiency for Nurse and Midwife Prescribers (NMC, 2006), consultation is indicated as an essential element of nurse prescribing and should be delivered in conjunction with other aspects such as history taking, diagnosis, decision making and therapy. However, the Diabetes Competency Framework (TREND-UK, 2010) highlights other skills or services which nurses should master. This could give a challenge for the DSNs as they are expected not only to engage with prescribing but also with other care essentials needed by the patients. Therefore, further studies exploring diabetes consultation from nursing context are required. The following exploration focuses more on how diabetes consultations have been delivered by nurses, particularly DSNs. The aim of the review is to investigate common aspects involved in diabetes consultation conducted by nurses.

3.3. Selected aspects of diabetes consultation delivered by DSNs

A number of diabetes studies have been conducted in order to understand diabetes consultation conducted by the nurses. However, the majority of these studies focus on the role of the nurses or their outcomes. This section reviews the available evidence to explore any good practice and issues related to diabetes consultation performed by nurses or DSNs.

There is evidence of good practice or outcomes of consultation contributed by diabetes specialist nurses, in the form of patients' satisfaction, length of stay and other parameters (El-Gayar, Chen, Sharma and Qureshi, 2007; Royal College of Nursing, 2010). However, evidence as to how the consultation is structured by the nurses is rather limited (Hastings, 2006). This might be due to the necessities in defining or giving judgement to the role of specialist nurses and measuring health

outcomes in diabetes (Peters, et.al., 2001; Winocour, Ford and Ainsworth, 2002; Johnson and Goyder, 2005; Waddingham, 2007).

In this section, areas of diabetes consultations conducted by DSNs from relevant sources are discussed and analysed (Table 7). The review firstly summarises the outcomes of diabetes consultation conducted by nurses and then reviews some aspects which are focusing on the pattern or structure of nurse consultation such as experiences or patients' views, scope of consultation and specialisation, modes of consultation and constraints.

Area of investigation	References
Outcome e.g. lowered HbA1c, self-management, length of stay, cost	Ovhed, Johansson, Odenberg and Rastam (2000) Vrijhoef, Diederiks, Spreeuwenberg, Wolffenbuttel (2001) Yong, Power and Gill (2002) Chan, Yee, Leung and Day (2006) (Hongkong) El-Gayar, Chen, Sharma and Qureshi (2007) King and Wolfe (2009) Royal College of Nursing (2010)
Experience , views, patient satisfaction	Pooley, et al. (2001) Bezerra, <u>Moreira</u> , Nobrega-Therrien and Almeida (2008) (Brasil) Edwall, Danielson and Ohrn (2010) (Scandinavia)
The Scope and specialisation of diabetes consultation, e.g. blood monitoring, insulin, erectile dysfunction, diabetes foot care, exercise.	New GMS Contract (Primary Care Commissioning, 2006). Kirk.et.al.,(2001) Boyd (2007) DSN jobs description from a variety of Trusts Alabraba, Floyd and Wallymahmed, 2010 Schoen, Balchin and Thomson (2010)
Modes of consultation e.g., one to one, telephone consultation or email	Kim and Oh (2003) Kruger, et al.,(2003) Collins (2005) Hastings (2006)
Constraints	Pill, Rees, Stoot and Rollnick (1999) Pooley, et al., (2001)

Table 7 Evidence of diabetes consultations conducted by DSNs

3.3.1. Outcomes of diabetes consultation

A study conducted in Holland by Vrijhoef, Diederiks, Spreeuwenberg and Wolffenbuttel (2001) has indicated outcomes from involving DSNs within diabetes

care in general practice. In this study, the outcomes of the group who received specialist care in the community were compared to another group which received care from an internist in the hospital. The result shows that the glycaemic control of patients who received care from DSNs improved as indicated by a lower concentration of HbA1c (glycated haemoglobin). Unfortunately, there are some limitations in this study; the requirements for GPs to be involved in the research prevented its random allocation, and the identified outcome could be related to other factors, such as life style and treatment, which could not be controlled by the researchers and not necessary gained from the DSNs' consultations.

Another study led by El-Gayar, Heba, et al. (2007) demonstrated that care led by Inpatient Diabetes Specialist Nurses (IDSNs) optimised diabetes control for inpatients with co-existent diabetes. Although in this study El-Gayer only used 25 cases, which is smaller compared to the above study from Holland, the findings gave another essential outcome in the form of length of stay (LOS). Their results show a significant correlation between the time to see a DSN and the LOS ($P < 0.001$). There is also a significant correlation between the time to see a DSN and the number taken to discharge ($P < 0.008$). They suggest that apart from adjusting diabetes medications, giving reassurance and early follow up, DSNs should have a strategic role in managing inpatient care. These positive outcomes should be promoted and maintained; therefore the authors reject the idea of saving the NHS money by reducing the number of IDSNs which was a concern in 2005/2006 due to the NHS budget deficit of £623 million, nearly three times compared to the previous year. The National Survey of Health Advocacy Groups (National Voices and Royal College of Nursing, 2009) published a similar result which indicated the important roles of specialist and community nurses in supporting the care-plan process. More

recently, the Royal College of Nursing (2010) reviewed independent reports selected from charities and interviews with selected specialist nurses. They produced a list which shows contributions of specialist nurses to the health care system though from a broader perspective not necessary DSNs (Table 8).

Cost benefits
<p>reduced waiting times</p> <ul style="list-style-type: none"> • avoidance of unnecessary hospital admission/readmission (through reduced complications post-surgery/enhanced symptom control/improved patient self-management) • reduced post-operative hospital stay times • the freeing up of consultant appointments for other patients • services delivered in the community/at point of need • reduced patient treatment drop-out rates • the education of health and social care professionals • the introduction of innovative service delivery frameworks • direct specialist advice given to patients and families.

Table 8 The cost benefits generated by specialist nurses (Royal College of Nursing, 2010, p.4)

The report from the Royal College of Nursing (2010) gives useful information about the contributions of specialist nurses. Unfortunately, in this report, there is no explanation on how the information was obtained and how the nurses were selected and recruited. There might be some bias and conflict of interests due to the absence of independent reviewers.

3.3.2. Experience/ views/ patient satisfaction

A study conducted by Pooley, et, al (2001) reported findings expressed by patients and health care professionals including DSNs. They highlighted shared expectations in terms of the type of care they could receive or deliver. This finding seems more to

support the idea of the improved partnership between both health care professionals and patients.

In a more recent study conducted by Edwall, Danielson and Ohrn (2010) revealed some positive experiences of diabetes consultations as expressed by 20 patients after they attended their consultations with nurses. They felt more in control, felt less exposed and comfortable, and more prepared.

3.3.3. The scope of diabetes consultation

Patients come to see their DSNs with many different health or self-management issues. Previous studies have identified these issues such as physical activity (Kirk, et.al, 2001), erectile dysfunction (Boyd, 2008); and foot care (Schoen, Balchin and Thomson, 2010). These show a variety of health problems which give the reasons for patients to see their DSNs.

The experience from Aintree University Hospitals NHS Trust (Alabraba, Floyd and Wallymahmed, 2010) indicated the benefits of an Inpatient Diabetes Specialist Nurses (IDSNs) team since its establishment. The areas which the team covered were clinical care, education, developing guidelines and administration/organisation. The team regularly supported other staff and managed diabetes care within the hospital which included management of hyperglycaemia, hypoglycaemia and delivering education and consultations.

3.3.4. Modes of consultation

Nurse-patient consultations have been delivered in different forms which include one to one meetings (Collins, 2005; Hasting, 2006), telephone communication (Kruger

et, al., 2003; Kim and Oh, 2003) and using mobile phone/ text messages. Different findings have been reported by these authors. Both Collins (2005) and Hastings (2006) examined how one to one consultation was conducted by the DSNs. Collins (2005) compared the pattern doctors and nurses applied in communicating with the same patients in 38 recorded diabetes consultations. Some differences in term of sequence and patients' participation were observed. The observation obtained from consultation conducted by DSNs gave good information in term of how the nurses were able to connect the medical health issues with the patients' situation. Unfortunately, Collins (2005) only observed 2 consultations conducted by DSNs of the total 38 recorded consultations; this suggests that this area still needs more substantive investigation.

Hastings (2006) used a different approach in their study to examine consultation skills of nurses in the primary and secondary setting. Within this project, 100 consultations were videotaped and observed by using the modified Leicester Assessment package which has previously been used to observe GPs' competences in consultation. The research team then asked nurses whether the items indicate in the Consultation Assessment and Improvement Instrument for Nurses (CAIIN) reflected their work when consulting patients. Hastings suggested some issues within the context of nurse-patient consultation, such as the ability of nurses to establish a diagnosis, the clinical reasoning or decision making used to diagnose and in some cases the differences between the patient's and nurse's aims. This might be linked to the way we support or prepare nurses in performing their extended roles. However overall, he claimed that CAIIN could help nurses to structure their consultations. Furthermore, from reviewing different models and considering data from his project,

Hasting and Redsell (2006, p.21) summarised a model for nursing consultation highlighting some strength of all of those models:

- Interpret prior knowledge about the patient
- Set goals for the consultation
- Gather sufficient information to make a provisional, triple diagnosis
- Discover the patient's ideas, concerns and expectations about the problem(s)
- Carry out appropriate physical examination and near patient tests to confirm or refute the diagnosis
- Reconsider the assessment of the problem
- Reach a shared understanding of the problem with the patient
- Give the patient advice about what they need to do to tackle the problem
- Explain the actions that will be taking
- Summarise and close

Hastings's summary of features of nursing consultation as listed above seems to be similar to the consultation models designed previously for doctors which focuses on hypothetical-deduction, discussed earlier. This approach starts by assessing the patient's knowledge and collecting the data. It is not clear however with regards to the meaning of a provisional (hypothesis) and triple diagnosis, how nurses formulate and classify diagnosis. Further discussion of this issue is given in the next chapter. It should be noted that Hastings's project was conducted in both primary and secondary care settings involving patients with different conditions. Therefore, the summary as listed above might be applicable to certain areas of practice including the setting where this PhD research is conducted.

In comparison with one to one interaction as mentioned above, telephone consultations have been found useful in the study conducted by Kim and Oh (2003) that used internet and text messages to monitor and communicate with patients following interventions which consists of education, reinforcement of diet, exercise and medication adjustment. This study revealed some positive outcomes such as increased adherence and decreased HbA1c suggesting better glycaemic control. In contrast, Kruger, et al. (2003) suggested no differences between the outcome of telephone and internet (the use of modem) consultation for gestational diabetes patients. However, there was an increased satisfaction amongst staff with the use of the modem to transfer blood glucose results from patients to their system rather than via telephone. Both studies have given some usefulness by using other modes of communication or telemedicine in addition to one to the one consultations.

3.3.5. Constraints

Some reports have indicated difficulties, or constraints, in delivering effective consultation to enable diabetes self-management. Pooley, et al. (2001) for example mentioned some issues such as time, continuity, the ability of health care professionals including DSNs to comfort, listen, answer the patients' questions from the patients, maintain continuity and individualised patient care. These authors indicated that time issues led to inadequate consultations in which the individual needs of the patients could not be addressed. However, a lengthy consultation with too many questions also led to patient irritation. Another challenge was related to the ability of patients' responsibility in maintaining their own health, particularly on a long term basis.

The findings from Polley, et al. (2001) have clarified issues surrounding the effectiveness of diabetes consultation (process) as well as the long term impacts, although the Authors did not explain how the long impacts were measured.

3.4. Summary

This chapter has reviewed the development of consultation models and the roles of the DSNs aspects of diabetes consultation from the nursing context. From medical perspectives, doctor-patient consultations have been developed and reviewed for more than 50 years, starting from Balint's consultation model: '*Doctor, his patient and the illness*' (Balint, 1957) to the latest model: the Calgary-Cambridge Observation Guide to the Consultation (Kurtz and Silverman, 1996). There are similarities amongst these models particularly in the structure of consultation, the importance of communication skills and on engaging with patients. However, the focus of the consultation appears to be different. For example, Balint's model focuses on understanding emotion and personal characteristics in medical consultation, whereas Pendleton, et al. (1984) concentrates on the tasks of consultations in addition to understanding the position of the doctor and the patient. Other authors, such as Kurtz and Silverman (1998), concentrate more on the structure or sequence of consultations and their framework and have been adopted by other health care professionals including nurses.

In contrast, specialist nurses in the UK started to emerge in the 1970s and the formal definition was given by the UKCC in 2001. Since this time, literature on the area of DSNs has appeared in health care journals. For the first few years, the focus of the majority of literature was on clarifying the roles of the DSNs. Since this time the establishment of specialist nurses, including DSNs within health care settings in the

UK, has flourished. Their roles have now been recognised and supported by national or local policies, as well as being European driven.

From 2000 onwards, authors were interested in publishing how DSNs could contribute to patients' outcomes; this might be related to the different consultation arrangements, as these nurses provided diabetes services which traditionally could only be delivered by the medical personnel. The scope of consultations conducted by nurses cover many different diabetes related issues and patients can discuss their conditions, either by attending one to one consultations or alternatively by telephone and text messages. The techniques make these consultations with nurses more flexible. The findings from previous studies showed positive outcomes gained from consultations conducted by DSNs, such as a better glycaemic control together with a reduced cost and improved patients' satisfaction.

Unfortunately, apart from a good range of evidence showing the positive outcomes, there is a lack of evidence on how the DSNs conduct diabetes consultations. There is a claim that the consultation conducted by the nurses is similar to the approaches utilised by the doctors in term of the use of hypothetical-deduction, although further investigation is required to confirm if it is always necessary for the nurses to establish a hypothesis in their consultations. The first article perhaps being that of Edwall, Danielson and Ohrn (2010). Some Researchers such as Hastings (2006) proposed a consultation structure for nurses (Consultation Assessment and Improvement Instrument for Nurses/CAIIN), yet looking at its components, there are some duplications and this instrument has not widely been validated.

Regretfully, there are also a number of issues surrounding consultations by nurses, such as the differences between the nurse and patient's agenda. Secondly, compared to medical consultations, there was less evidence to show how nurse- patient consultations are viewed or experienced by both parties and how the nurse-patient consultations are structured. Therefore, it is crucial to investigate these areas so that guidelines can be made in order to monitor, maintain and improve the one to one consultation delivered by Diabetes Specialist Nurses.

Chapter 4 EXPLORATION ON RELEVANT CONSULTATION SKILLS FOR DIABETES SPECIALIST NURSES

This chapter offers a more detailed review and critique on relevant consultation skills and how they have been incorporated within the consultation conducted by nurses, particularly diabetes specialist nurses. Any pitfalls in conducting consultations are highlighted and linked with the available best evidence, to show how diabetes consultation is generally expected. This review will assist the later phase of the research study, particularly when analysing and discussing the findings.

As mentioned in the previous chapter, diabetes specialist nurses have a variety of responsibilities which may include delivering direct and indirect care, as well as management, education, administration and research. The scope of consultations includes a broader aspect of care. Therefore, a wide range of skills are necessary for delivering effective nurse-patient consultations.

O' Gara and Fairhurst (2004) in their review identified some essential skills required within the consultation context such as questioning, listening and noticing, showing empathy, understanding the patient's concerns and concluding the consultation. They provided useful information on how certain consultation skills mastered by nurses might benefit patients, but one criticism is that they had attempted to focus on nursing consultation in emergency care settings, yet the selected skills they reviewed were not necessary related to this aspect. Another issue is related to a selection of evidence to support their arguments which predominately form primary care research

that might be inapplicable in emergency clinical areas. In contrast, Hasting (2006) in his report, more specifically indicated a wider range of skills which were essential for nurses to conduct consultations: the ability to interview; perform examination; conduct diagnostic testing and practical procedures; design care planning and patient management; engage in problem solving; establish behaviour or relationship with patients; deliver health promotion and disease prevention and maintain a good record. Table 9, indicates the skills which was designed by Hasting (2006) and listed on the Consultation Assessment and Improvement Instrument for Nurses (CAIIN).

Catagories	Competences
Interviewing	<ul style="list-style-type: none"> Puts patients at ease Enables patients to explain situation/problem fully Listens attentively Seeks clarification of words used by patients as appropriate Demonstrates an ability to formulate open questions Phrases questions simply and clearly Uses silence appropriately Recognises patients' verbal and non-verbal cues Considers physical, social and psychological factors as appropriate Demonstrates a well-organised approach to information gathering
Examination, diagnostic testing and practical procedures	<ul style="list-style-type: none"> Elicits physical signs correctly and sensitively Uses instruments in a competent and sensitive manner Performs technical procedures in a competent and sensitive manner
Care planning and patient management	<ul style="list-style-type: none"> Formulates and follows appropriate care plans Reaches a shared understanding about the problem with patients Negotiates care plans with patients Uses clear and understandable language Educates patients' appropriately in practical procedures Makes discriminating use of referral, investigation and drug treatment Arranges appropriate follow-up
Problem solving	<ul style="list-style-type: none"> Accesses relevant information from patients' records Explores patients' ideas, concerns and expectations about their problem(s) Elicits relevant information from patients Seeks relevant clinical signs and makes appropriate use of clinical tests Correctly interprets information gathered Applies clinical knowledge appropriately in the identification and management of the patients' problem
Behaviour/relationship with patients	<ul style="list-style-type: none"> Recognises limits of personal competence and acts accordingly Maintains friendly but professional relationships with patients Conveys sensitivity to the needs of patients Is able to use the professional relationship in a manner likely to achieve mutual agreement with the care plan
Health promotion/disease prevention	<ul style="list-style-type: none"> Acts on appropriate opportunities for health promotion and disease prevention Provides appropriate explanation to patients for preventive initiatives suggested Works In partnership with patients to encourage the adoption of a healthier lifestyle
Record keeping	<ul style="list-style-type: none"> Makes an appropriate and legible record of the consultation Records care plan to include advice and follow-up arrangements as appropriate Enters results of measurements in records Provides the names(s), dose and quantity of drug(s) prescribed to patients together with any special Precautions

Table 9 Categories and competences of the CAIIN (Hastings, 2006)

As listed in Table 9, there is a wide range of skills required in consultation.

Unfortunately, there are some elements which appear to be duplicated such as those listed under the heading of problem solving. For example, the access of relevant information from patients' records and to seek relevant clinical signs which should be part of the examination stage and performed before care planning (Priharjo, 2007).

In that research, Hasting (2006) randomly selected nurses from different hospitals and care settings and asked them if in their consultation they had used the pattern as indicated in the CAINN study. This research showed a holistic approach used by the nurses, but the findings might be biased as they relied on self-opinions from the nurses in evaluating their consultation. Another factor as indicated by the author could be related to the variety of health care settings where the study were conducted and different patients' conditions.

From the national perspective, in 2006 the Nursing and Midwifery Council (NMC) through the publication of the standards of proficiency for nurse and midwife prescribers included one standard (Standard 9, NMC, 2006) which links to the educational outcomes for nurse prescribers in relation to consultation, decision making and therapy as well as referral. It is expected that the education programme should be designed in helping the nurses to perform the following aspects:

- Accurate assessment. history taking, communication and consultation with patients/ clients and their parents/ carers
- Development of a management plan
- Diagnosis

- Prescribe, not to prescribe, non- drug treatment of referral for treatment
- Numeracy and drug calculations

Compared to the competences identified by Hasting (2006), the aspects indicated in the NMC standards seem to be more medical oriented. The term '*diagnosis*' is also mentioned in this standard (p.19). However, similar to the elements listed by Hasting (2006), who preferred to use the words '*patients' problem*', it does not explain the scope of this diagnosis context. This gives some evidence that there is a blurred area in the UK within the phase of this important element of care planning. One question that might need to be asked is how do nurses develop their decision makings skills within the context of prescribing and consultation.

One essential aspect explained in this NMC standard is the statement that the training for non-medical prescribers should include elements of consultation skills and decision making. Thus far, it also appears that there is limited evidence in the United Kingdom which shows how this preparation has been structured or delivered within the context of nurse prescribers' educational preparation.

More recently, the Training Research and Education for Nurses- Diabetes UK (TREND-UK., 2011) suggested 20 diabetes competencies ranging from screening, prevention and early detection of type 2 diabetes to the end of life care. These competences which have been matched with those from the Skills for Health cover a broad range of diabetes care and some of the themes are relevant to diabetes consultation. This competency framework is expected to help nurses in meeting the needs of patients as indicated in various guidelines such as the National Service Framework: Delivery strategy (Department of Health, 2003); Care planning in diabetes (Joint Department of Health and Diabetes UK Care Planning Working

Group, 2006); Working together for better diabetes care (Department of Health, 2007) and Diabetes Commissioning Toolkit (Department of Health, 2006).

Examining the evidence obtained from the literature, some essential skills have been identified. This chapter reviews six main skills required by nurses in consulting their patients which include: establishing a nurse-patient relationship, obtaining the health history, conducting physical assessment, developing clinical decision making/reasoning, empowerment and diabetes education, and nurse prescribing. It is expected that the review covers not only the theoretical foundation of consultation (nurse-patient relationship) but also the main skills utilised in the consultation (history taking and clinical decision making) as well as the current approach: empowerment and political trend: nurse prescribing.

4.1. Nurse-patient relationship

The relationship between the nurse and the patient has always been crucial in any care settings or within a wide variety of clients (Williams and Davis, 2005). This type of relationship in nursing which can be linked to the term '*psychodynamic nursing*' was conceptually explored by Hildegard Peplau in her seminal book '*Interpersonal Relations in Nursing*', published in 1952 in New York. This theory has been very popular particularly in North America. Apart from Peplau's contribution, the concept and practical components of nurse-patient relationship have been examined since the 1960s, particularly in the USA as indicated by Gorton (1961) and Nemiah (1964).

Peplau's seminal book on interpersonal relations in nursing was reprinted in the UK in 1998 (Peplau, 1998) and became a best-seller worldwide. Peplau's theory is mainly related to psychiatric nursing practice (Barker, 1998). Peplau argued that in

order to establish a relationship, the nurse and patient needs to go through a process which consists of orientation, identification, exploitation and resolution (Callaway, 2002). In its development, her theory has also been used in other areas of nursing such as patient education (Marchese, 2006). This theory gives a framework to guide nurses in assessing, planning and implementing relevant actions. It also looks at the position of the nurse and the patient and how both parties can work together based on the health status of the patient and the availability and skills of the nurse. In agreement with this concept, Williams and Davis (2005) proposed the importance of the nurses to understand '*the self*' and to enable them to promote health and to interact with the patients. According to these authors, the nurse should be able to assess their '*maturity*' as a person and be aware that this stage could be affected by their entire childhood and development. In setting up a good interaction with the patients, some aspects need to be considered such as the ability of the nurse to understand their position in their helping relationship, to select communication strategies and to be familiar with cross cultural boundaries which could affect communication.

Similarly, if we look back at the medical consultations (see Chapter 3), Pendleton et.al. (2003) also stated the important of understanding '*the patient*', '*the doctor*' and also '*the consultation*'. From a conceptual dimension, it can therefore be argued that there are some similarities between nursing and medical communications. Both Peplau (1952) and Pendleton (2003) seemed to raise the importance of structuring the sequence or pattern of the partnership and the ability to understand each other. Perhaps, the limitation of this concept is based on the ability of the nurse to understand how '*self*' could be measured. In agreement with this issue, William and Davies (2005) indicated the difficulties in observing behaviour such as how nurses

employed their emotions and perceptions to understand patients' health needs and to promote the healing process.

It is questionable whether the step by step of relationship development as indicated by Peplau (1952) and Pendleton (2003) is followed within nurse-patient consultation, including in the area of diabetes care, as overall the evidence to show this application is still limited. Perhaps the first person who conducted a research to investigate the relationship between the position of understanding '*self*' and the ability to interact with patients living with diabetes is Chrisman (1995), who looked at the concept of '*self- efficacy*' and '*communication satisfaction*' in the nurse- client relationship. In a survey of 113 people living with diabetes, this author found great satisfaction by people with the use of confirmatory messages by nurses. A positive outcome of this study was the importance of understanding relational communication messages within nurse-patient communication.

Apart from understanding the position of '*the nurse*' and '*the patient*' and the ability to understand '*self*', there are other aspects which can affect the nature and quality of the partnership between health care professional and patients. Another way to understand this is by exploring the ability of health care professionals to demonstrate their understanding toward their patients in the form of '*empathy*'. This concept was originally developed from experimental psychology (Gordon, 1934). In its first development, Gordon (1934) in his experiment, showed some images of a person with different hand positions and asked the research subjects to report to him what position the images showed. Interestingly, he received different answers from the research subjects. It was concluded that people could have different understanding or interpretations toward the same image. Since the publication of this finding, the

concept of empathy and insight have been examined by other people such as Dymond (1948) who defined insight as *‘an understanding of self-other patterns or roles which the individual has incorporated and which form the basis of his expectations of others, his structuring of his life situations and the place he feels he occupies them. One of the core elements of insight according to this author is empathy’*.

These early concepts of insight and empathy were then revised by other researchers such as Lindgren and Robinson (1953) who modified Daymond’s test, yet they considered their revision as invalid and concluded that this revision was not a valid tool to measure insight or empathy. Later on, empathy was also used outside of the discipline of psychology including nursing (Kandler and Hyde, 1953). In the 1970s, more research evidence was gained on the use of empathy in nursing. However, the majority of the reports were focused on the understanding of empathy from educational perspectives (Kalish, 1971; Rosendahl, 1973; Lauder, et al., 2002; Chism and Magnan, 2009; Ozcan, et al., 2010).

Yu and Kirk (2008) in their systematic review used Rogers’s work (1957, p.99) to define empathy as *‘an ability to sense the client’s private world as if it were your own, but without ever losing the “as if” quality’*. Roger’s article in the necessary and sufficient conditions for personality change which was published in 1957 (also available in Rogers, 2007), has initiated a significant understanding of psychotherapy and the research conducted in this area. From his experience in delivering psychotherapy with people in distress, He constantly attempted to formally formulate a theory of psychotherapy together with those of personality and interpersonal relationships. He postulated the following six conditions which should exist or

continue over a period of time to enable a constructive personality change (Rogers, 2007, p.241).

- Two people are in psychological contact.
- The first, whom we shall term the client, is in a state of incongruence, being vulnerable or anxious.
- The second person, whom we shall term the therapist, is congruent or integrated in the relationship.
- The therapist experiences unconditional positive regards for the client.
- The therapist experiences an empathic understanding of the client's internal frame of reference and endeavours to communicate this experience to the client.
- The communication to the client of the therapist's empathic understanding and unconditional positive regards is to a minimal degree achieved.

These classical hypotheses from Rogers have received a range of positive and negative criticism particularly those with an interest in developing the concept of client or personal centred care. For example, Kirschenbaum (2005) in his review, reported the latest development of the Carl Rogers's concept which has been utilised by professional organisations and institutes and journals worldwide. In that review, Kirschenbaum also looked at studies aimed to validate some of the Rogers's core conditions including empathy. In contrast, other authors have given criticism to Rogers's work. Samtag (2007) indicated some limitations, such as its subjectivity and development of the theory, when it was necessary to encourage clients and therapists to increase their self-awareness, due to the general political oppression at that time. Similar to this criticism, Hill (2007) suggested that the six conditions proposed by Rogers needed to be expanded by including interpersonal changes and

current common factors models, such as the encouragement of corrective experiences and the awareness of any relevant boundaries.

In the nursing literature, empathy can be linked to five conceptualisations which include a human trait; a professional state; a communication process; caring and a special relationship (Kunyk and Olson, 2001). As a human trait, empathy is considered to be a natural characteristic of an individual which cannot be taught. However, it is believed that it can be identified, reinforced or refined. In the context of professionalism, empathy is considered as a learned professional skill which consists of cognitive and behavioural components; therefore this can be included within professional nurse training. The last three components of empathy can be shown in the process when the communication between the nurse and the patient is established (Kunyk and Olson, 2001).

A wide range of studies have been conducted to measure empathy within a medical consultation context (Mercer, et al., 2004, 2005; Norfolk, et al., 2007).

Unfortunately, there is limited evidence to show how this concept has been used in diabetes care (Lloyd, et al., 2007; Heuberger, 2010), and no published report on how empathy principles have been implemented by DSNs. Mercer, et al. (2004, 2005) focused more on the implementation of the Consultation and Relational Empathy (CARE) as a tool to assess empathy, whereas Norfolk, et al. (2007) looked at details of the empathy process or the therapeutic rapport in the consultation via empathic understanding of the patients (Diagram 1).

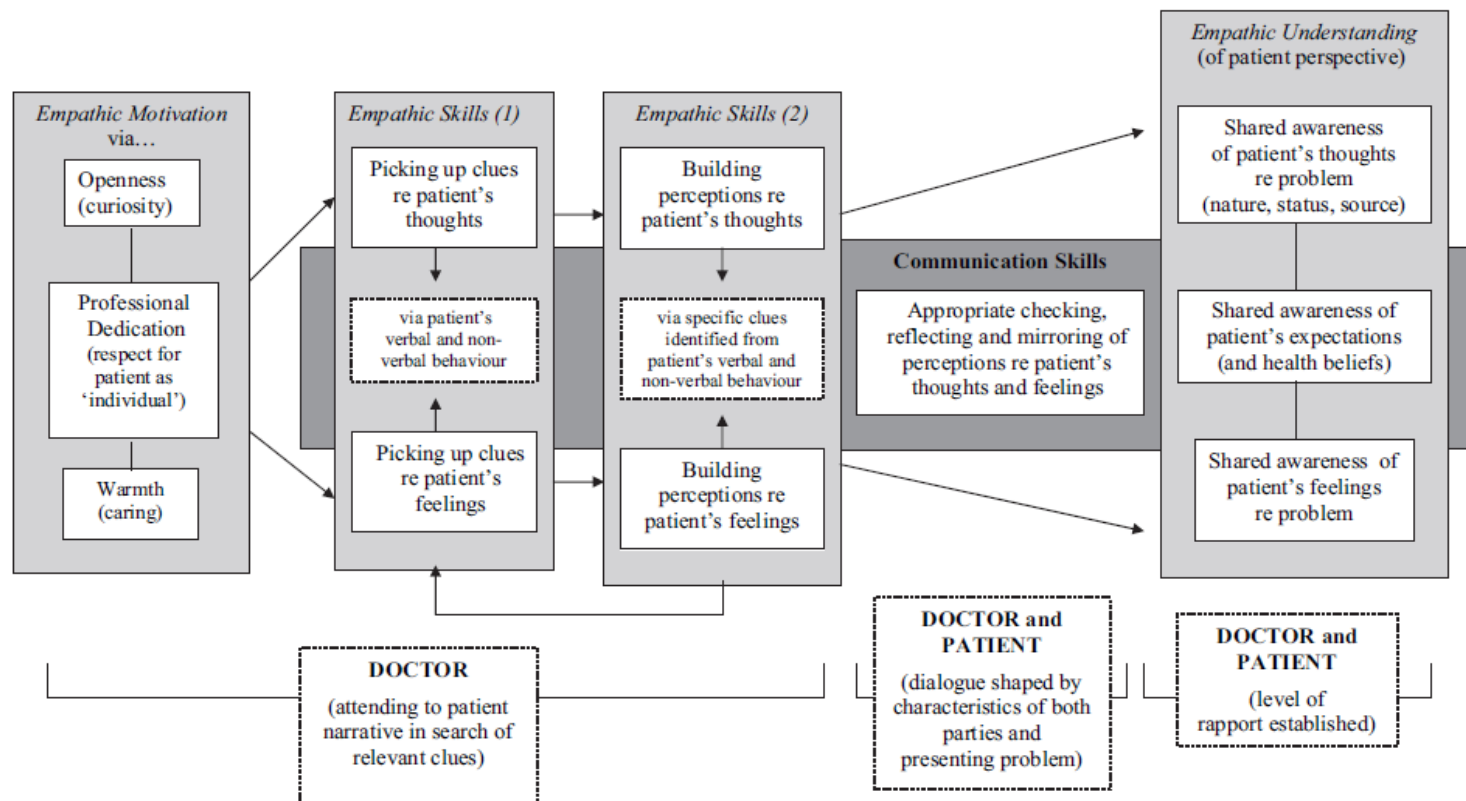


Diagram 1 Developing therapeutic rapport in the consultation (Norfolk, et al., 2007).

In Diagram 1, the connection between empathic motivation with empathic skills or communication skills and empathic understanding are indicated (Norfolk, et al., 2007) (please note, an email requesting permission to use this figure has been sent to the copyright owner). The dialogue between the patient and the doctor is affected by the doctor's empathic motivation and empathic skills. The result of which shows in the degree of empathic understanding from the perspective of both the patient and the doctor.

The two studies conducted by Lloyd, et al. (2007) and Heuberger (2010) have given some evidence of the use of empathy within the diabetes context. Lloyd (2007) measured how hope, perceived maternal empathy, adherence and glycaemic control could be related with each other with regards to young people with type 1 diabetes. They found out significant correlations among these variables. Heuberger (2007) used standard immersion didactic techniques and exercises to build skills to measure the levels of empathy amongst 93 students. Heuberger (2011) clarified the immersion didactic techniques she used in her project as *"Immersion is taking role playing to a whole new level, and actually "living" the part, such as becoming a diabetic for an extended period of time. Skill building exercises involved, for example shopping list construction for diabetic diet for a gestational diabetic woman, or developing a GDM cycle menu with recipes, nutritional analyses and shopping list"*. In her study, these students assumed the role of patients with gestational diabetes and the post immersion was scored by using the Jefferson Scale of Empathy which showed statistically significant improvements in empathy, knowledge and skills. Unfortunately, there is no other evidence to support this different technique and the outcomes as claimed by Heuberger.

Apart from empathy, there is also an emphasis on the equality of hierarchy between health care professionals and patients. Therefore the meaning of ‘*power*’ and how this can be shared needs to be clearly examined. Berne (1964) in his classic text “*Games People Play*” and in his transactional analysis argued that most successful consultations should involve two parties in the position of two adults (logical) and not in the form of a paternalistic pattern where the therapist acts like the parent and the patient as the child. Within the consultation context, Berne’s transactional analysis has been utilised in other areas of practice such as chronic illnesses (Lee and Poole, 2005), mental health consultation (Hover, 1976) and psychiatric consultations in general hospitals (Freeman, 1979). Berne’s concept has also been applied in education (Kececi and Tasocak, 2009; Sivan, McKimm and Held, 2011). Other researchers such as Halkett, McKay and Shaw (2011) suggested the beneficial use of this model of communication in health care practice, particularly in radiography with the reasons that this model can help them in analysing their communication style as well as their self-reflection.

Looking at the findings reported particularly by Norfolk, et al. (2007) and Berne (1964), it can be argued that the partnerships between health care professionals and clients or patients are vital. Norfolk, et al. (2007) seemed to be more interested in the empathetic behaviour of the doctor; an aspect which according to Kunyk and Olson (2001), cannot be taught and empathetic skills (which according to Heuberger, 2007 can be learnt via immersion). In contrast, Berne’s work (1964) focused more on clarifying the position of the two parties within a social interaction context. He argued that in any consultation including medical consultation (Berne, 1964, pp.124- 140), individuals can hide feelings or emotions. This description given by Norfolk et al. (2007) seemed to support some elements as highlighted by Berne (1964) as indicated

by the inclusion of the requirement to respect the patient as an individual and to check the patient's thoughts and feelings. Both of the concepts give some important principles, but there could have been difficulties in applying them in diabetes consultations. Thus, one argument is that Norfolk, et al., (2007) failed to suggest the time required by health care professionals to develop therapeutic rapport (from identifying personal empathetic motivation to establishing mutual understanding). Secondly, in reality the process of consultation does not always finish with a clarification of empathic understanding. In addition, there are other aspects which need to be covered such as care planning, health education and record keeping. Similarly, Berne's work has created some practical issues. It is questionable as to how health care professionals could check whether their patients hid their feelings or emotions. The notion of '*two adults*' might not be suitable in consultation with certain patients such as young people or those who have difficulties in understanding themselves and their needs.

Despite the popularity of the concept of empathy in health care and nursing, this concept still needs further investigation. Lloyd, et al. (2007) suggested prospective longitudinal research due to the limitations of their study in which they only used small sample sizes, self-report measures and cross-sectional designs. Heuberger (2010) however, recommended conducting a research to measure clinical outcomes, as her study only focused on empathy skills among students. Another suggestion is from Yu and Kirk (2008), following their systematic review to evaluate empathy measurement tools in nursing. They proposed advanced empathy measurements in nursing research so that the outcome can suggest nursing intervention. Considering all these recommendations, the inclusion of empathy measurement in this PhD research is therefore, relevant.

Apart from empathy, within the last two decades, a higher interest has also been shown by both clinicians and researchers in studying interpersonal relationship in the form of '*motivational interviews*'. In the diabetes context, evidence started to appear in the early 2000s with regards to its understanding and implementation (Doherty and Roberts, 2002). Miller and Rollnic (2002, p.25) defined motivational interviewing as '*a client-centred, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence*'. Regardless of their intensive work on this area, they still felt that this definition still needed further examination. As indicated by these authors, the main purpose of motivational interviewing is to facilitate change and the term needed to be differentiated with motivational interventions or other techniques such as counselling.

In motivational interventions, the fundamental approach of collaboration, evocation and autonomy are implemented, whereas counselling is characterised by confrontation, education and authority. In addition to this, Miller and Rollnick (2002, p.36) suggested four principles to guide practitioners in conducting motivational interviews: express empathy, develop discrepancy, roll with resistance and support self- efficacy (See Table 10). They stated that all of these elements could be integrated to treatment approaches even in any first consultation (Miller and Rollnick, 2002, p.27).

Principle 1: Express empathy	<ul style="list-style-type: none"> • Acceptance facilitates change • Skilful reflective listening is fundamental • Ambivalence is normal
Principle 2: Develop discrepancy	<ul style="list-style-type: none"> • The client rather than the counsellor should present the arguments for change • Change is motivated by a perceived discrepancy between present behaviour and important personal goals and values
Principle 3: Roll with resistance	<ul style="list-style-type: none"> • Avoid arguing for change • Resistance is not directly opposed • New perspectives are invited but not imposed • The client is a primary resource in finding answers and solutions • Resistance is a signal to respond differently
Principle 4: Support self-efficacy	<ul style="list-style-type: none"> • A person's belief in the possibility of change is an important motivator • The client, not the counsellor, is responsible for choosing and carrying out change • The counsellor's own belief in the person's ability to change becomes a self-fulfilling prophecy.

Table 10 Principles of motivational interviewing (Miller and Rollnick, 2002)

In the later publication, Rollnick, Miller and Butler (2008, p.7) suggested similar principles including: 1). to resist the righting reflex; 2). to understand and explore the patient's own motivations; 3). to listen with empathy; 4). to empower the patient and to encourage hope and optimism. The acronym of **RULE** can be used to make it easier to remember: **R**esist, **U**nderstand, **L**isten and **E**mpower. Apart from these principles, three communication styles in the form of guiding, directing or following can appear in any consultation which reflects different attitudes about the role of practitioners in their relationship with the clients (Rollnick, Miller and Butler, 2008, p.7).

A number of randomised controlled trials have shown evidence of benefits of motivational interviewing for people with diabetes (Channon, Smith and Gregory, 2003; Channon, et al., 2005; Huws- Thomas, et al., 2005; Channon, et al., 2007; Greaves, et al., 2008; Wang, et al., 2010; Rosenbek, et al., 2011). In their first

publication, Channon, Smith and Gregory (2003) and supported in later work by Channon, et al.(2005) and Channon, et al.(2007) claimed that following motivation interviewing, adolescents with diabetes showed a decreased in HbA1c (i.e. of glycated haemoglobin) from 10.8% to 9.7 % and the reading remained significantly lower after the end of the study. The comparison group which did not receive the motivational interviewing interventions did not show a significant reduction in their HbA1c levels. This pilot study therefore demonstrated a positive outcome of the implementation of motivational interviewing, although it can be argued that the reduction of HbA1c could also be linked with other changes of treatment such as insulin or diet which the researchers did not clearly clarify. In contrast, Rosenbek, et al. (2011) from their study were unable to show any benefits of motivational interviewing to their recruited patients in terms of HbA1c, self-efficacy and diabetes care. This has suggested the need for further research in order to measure the impacts of motivational interviewing for people with diabetes particularly their self-efficacy. Bandura (1986) considered self-efficacy as a personal factor which integrates cognitive and social skills that enable someone to perform a course of action. This concept has been used as a foundation of the American Diabetes Association (ADA) standards of diabetes care (ADA 2011) and the American Association of Diabetes Educator self-care behaviours (AADE, 2003). Similarly, in the UK, self-efficacy is considered as an important element of empowering the patients.

Comparing the selected randomised controlled trials, as mentioned above, with the principles of motivational interviewing from Miller and Rollnick (2002), it can be argued that motivational interviewing has a number of advantages due to the ability to take account of some components of relationship. For example, the principles of '*empathy*' and '*roll with resistance*' match with what Norfolk, et al. (2007) attempted

to explore. Unfortunately, the principle of '*develop discrepancy*' is not much different compared to the notation of '*two adults*' as suggested by Berne (1964). Furthermore, '*self-efficacy*' is also included and this can be linked with the findings which suggested a high satisfaction in people with diabetes who received confirmatory messages from their nurses.

4.2. History taking

In the assessment process, every health care professional needs to gain meaningful information so that they can identify the patient's health history associated to their health problems. There have been a number of researches conducted which investigated the values or validity of history taking. Even so, most of these studies were conducted for medical training (King, et al., 2004; Stevenson, et al., 2006), physiotherapy (French, 1988), radiology (Halkett, et al., 2011) or certain other areas such as sexual health (Rosenthal, et al., 2011; French, 2008). The search for this review failed to identify any study specially aimed to explore the dynamic of history taking in diabetes consultations.

Some reports have been published focusing on history taking in nursing (Wareing, 2003; Kaufman, 2008) and the findings might be relevant to diabetes consultation conducted by nurses. Wareing (2003) reported his experience in delivering nurse-led consultations in a prostate clinic in North Oxfordshire. Each patient was allocated 30 minutes consultation and the nurse collected history-taking data and performed physical examinations within this time frame. Some general elements of history-taking, such as past medical and current history of urology, a list of present medications including alternative therapies, the patient's age and occupation were recorded. The IPSS symptom scoring (Quek, et al., 2001) was used in this clinic to

determine the type and severity of patients' symptoms. This scoring system consists of seven items rated from 0 (not at all) to 5 (almost always), an additional score is related to the disease-specific quality of life question and the last one measures the overall severity of symptoms. Wareing (2003) claimed that the appointment of a urology specialist nurse and the establishment of the nurse-led prostate clinic had contributed to the continuity of care. Even so, the author failed to report clearly how this outcome was measured.

In another literature review, Kaufman (2008) explained the application of the Calgary-Cambridge consultation model in nursing (Silverman, Kurtz and Draper, 2004; this model is described in Chapter 3) and argued how it could be easily adopted into nursing consultation. Unfortunately, he did not give clear reasons and sufficient evidence apart from stating that this model supported the holistic aspect of nursing. In his assessment, he agreed that nurses needed to master consulting skills and history taking due to the increase in autonomy and decision making in nursing. Within this model, history taking forms the second phase of consultation which includes gathering information in which the practitioner needs to explore the patient's perspective, the biomedical perspective and background information. Some basic skills of communication such as '*active listening*' and the ability to use '*open questions*' are therefore essential.

The depth of history taking varies among different assessments. According to Weber and Kelly (2003, p.4), the focus of nursing history and physical assessment differs from that conducted by medical or other health care professionals. This clarification can be traced back almost 40 years to 1974 when the nursing process started to be used (Yura and Walsh, 1973). Conceptual frameworks have developed since then and

designed to help nurses in making decisions regarding what types of data they need to collect and in focusing and directing nursing care (Weber and Kelly, 2003 p.12), yet the implementation of the nursing process appears to be problematic when integrated care pathways are used or where nurses perform their extended roles.

Bickley and Szilagyi (2003, pp.21- 57) describe the approach which can be used by clinicians in interviewing and gathering health history. This text was firstly published in 1974 and it has been revised periodically. The 10th ed., was published in 2009. Perhaps, this is the most comprehensive text on physical examination and history taking to date. According to these authors, the components of the health history consist of: identifying data, chief complains, present illness, past history, family history, personal and social history and review of the system. These components need to be included in order to obtain the comprehensive health history. Furthermore, the authors also list the sequence of the interview and history taking as shown below:

- Greeting the patient and establishing rapport
- Inviting the patient's story
- Establishing the agenda for the interview
- Expanding and clarifying the patient's story; generating and testing diagnostic hypothesis
- Creating a shared understanding of the problem(s)
- Negotiating a plan
- Planning for follow-up and closing the interview.

In addition to these, applying other non-verbal cues of active listening, such as the use of **SOLER** framework as suggested by Egan, (2007) might be useful. This framework includes sitting **S**quare on to the patient with an **O**pen position, **L**eaning slightly

forward with **E**ye contact in a **R**elaxed posture. This technique seems easy to follow, even so, some practical implications of these needs to be carefully considered, particularly when communicating with patients living with severe mental health problems or speaking with people from different cultural backgrounds, which unfortunately were not addressed by Kaufman (2008).

Despite the general acceptance of this framework, there is no evidence to explain the rationale behind this suggestion and that overall, research in the area of active listening is very limited. Bryan (2009) believed that good listening is a key rapport in any consultation and this could facilitate better outcomes. Fassaert, Dulmen, Schellevis and Bensin (2007) developed Active Listening Observation Scale (ALOS) to measure the GPs active listening skills in five hundred and twenty- four videotaped consultations. The validity of the tool was promising as indicated by a psychometric test (Cronbach's alpha 0.84). To date, there is no study which has used this tool to measure active listening amongst nurses.

Apart from gathering data on physical complains or conditions, psychological issues should have also been investigated due to the fact that emotional problems such as depression have been reported to be the most common issue affecting people with diabetes (Peyrot, et al., 2005). NICE (2009) warned all health care professionals to be aware of this situation for any service user with a history of depression or who has been living with chronic physical health problems.

TREND-UK (2011) in their diabetes competency framework highlighted some competencies which nurses should master in assessing and managing people with diabetes from screening to the end of life care. For the first time, mental health was

included within the competency statements. It is required that experienced or proficient nurses should be able to 'assess mental health problems and find out the impacts of them on developing type 2 diabetes and diabetes management.

A variety of tools have been developed mainly in America to assess psychosocial wellbeing of people living with diabetes such as Problem Areas in Diabetes Scale/PADS (Polonsky, et al., 1995), Diabetes Empowerment Scale/DES (Anderson, Funnell and Fitzgerald, 2000), Diabetes Distress Scale/DDS (Polonsky, et al., 2005). Another scale was originally designed in Germany: The Questionnaire on Stress in patients with Diabetes- Revised / QSD-R. (Duran, et al., 2005).

A considerable number of studies have been conducted to measure the validity and reliability of these scales such as Polonsky, et.al. (1995), Welch, Jacobson and Polonsky (1997), Snoek et.al. (2000) and Earley, et al. (2000). The psychometric report from Polonsky, et al.(1995) shows a consistent high internal reliability ($\alpha = 0.90$) and it has a sound 2 month test-retest reliability ($r = 0.83$). The result was obtained from a sample of stable patients and a wide range of relevant aspects such as general emotional distress, depression, diabetes self-care behaviours; diabetes coping and health beliefs were also included. This report is supported by another evaluation conducted by Welch, Jacobson and Polonsky (1997) who reviewed 7 studies that used the PAD and in all these studies PAD emotional distress scores declined significantly, following interventions from general practitioners.

Similarly, Anderson, Funnell, Fitzgerald and Marrero (2000) have measured the psychometric properties of the DES and reported the validity and reliability of diabetes- related psychosocial self- efficacy. In contrast, the validity of QSD-R

designed by Duran, et al. (1995) has not been widely examined. Owing to the available tools in helping practitioners to assess psychosocial aspects of diabetes, one question that might need to be asked is how do practitioners including nurses decide which tool would be the best for their patients and how do they integrate them in their consultations. Unfortunately, to date, no studies have been done to investigate the use of diabetes psychosocial assessment tools by nurses.

Looking from the above evidence, it appears that a number of authors have considered the importance of skills in interviewing and history taking as part of the patient consultation, nonetheless, these skills have been reported by some authors as not effectively mastered by the nurses. For example Tatersall, Hartry and Ram (2008) reported inaccuracy in medication history taking in a diabetic eye clinic, particularly in connection with history taking which relied solely on interviews. Yet, the errors were reduced in a group who received a pre-clinic questionnaire prior to attending the consultation. In comparison, Burns and Adams (1997) in their project compared the accuracy of alcohol history taking of patients by nurses and doctors by examining the records made in 1992 and 1994. In this project, they compared the quality of recorded alcohol history and the use of alcohol withdrawal scale and they found that the accuracy of those recorded by nurses was significant as indicated by the alpha level (P Value: $P < 0.05$), whereas the doctor's record was not significant with the P Value: $P > 0.05$. The accuracy or adequacy of alcohol history taken by these health care professionals was evaluated by checking that in the records the standard and/ or grams of alcohol was used and whether they also indicated the amount of time in terms of days per week of alcohol consumption. They also looked at the patients' records from different wards and observed if the 9 item version of Clinical Withdrawal Assessment for Alcohol (CIWA-A) was utilised. In interpreting the results from this study, it is

necessary to acknowledge that this was conducted in an Australian hospital and the average age of the participants was 66 years old, therefore the findings might be different if the study also included younger people or occurred in the UK where the government set the consumption in units per day or per week (3-4 units of alcohol per day for men and 2-3 units per day for women) (NICE, 2010).

Another factor which needs to be considered in delivering patient consultation and history taking is timing. As indicated early on, Wareing (2003) allocated 30 minutes for each consultation in her project, nevertheless other evidence shows that in some areas, nurses feel that the time to conduct a complete history is not always available and there is also a gap in their training which does not prepare them to master history taking skills (Mc Kenna, 2011). In the local trust where this study was conducted, each patient was allocated 30 minutes in their individual consultation. Yet, whether this time would be sufficient had not been formally assessed.

This exploration on health history gives some general clues to explain how the diabetes consultation should be formulated. From the medical point of view (Bickley and Szilagy, 2003; Silverman, Kurtz and Draper, 2004), health history should consist of diagnostic hypothesis. In contrast, Weber and Kelly (2003) argue that health history conducted by nurses differs from the medical. Linking to the diabetes competency framework (TREND-UK, 2011), the scope of diabetes nurses cover a wide range of concerns, from assessing the patients, to managing the end of life care. The search for this review was unable to identify any study specially aimed to explore the dynamic or structure of history taking in diabetes consultations. Therefore, any research which can clarify this gap is urgently required. Although this PhD research mainly focuses on the patients and nurses' experiences with their diabetes consultations, some insight into

diabetes history taking might be revealed, particularly from the observation of the nurse-patient consultations.

4.3. Physical assessment

The type and details of physical assessment conducted by nurses varies from area to area and from country to country. In the UK as indicated by Rushforth, et al. (1998) the expectation and scope of nurses in conducting physical assessments appeared to be different from those of nurses practicing in the USA, Canada and Australia.

Nonetheless, this situation has changed in the two decades or so particularly after 1991 when the government, the NHS and the British Medical Association made an agreement to reduce junior doctors' hours to a maximum on average of 56 hours actual and 72 on call duty hours per week (Department of Health, 1990). These changes were needed to meet the European Working Time Directive. Since 1991, all employers or Trusts in the UK needed to monitor the hours worked by doctors, as stated in the Junior doctors' hours monitoring guidance (Department of Health, 1991) following the New Deal to assure the improvement of the working lives of junior doctors. This guidance was tightly followed by the NHS Trusts as indicated by the compliance rate (nearly 100%) in most areas in the UK. In responding to this progress, the NHS Employers were no longer required to produce six-monthly monitoring data on junior doctors' hours since 20th August 2010 (NHS Employers, 2010).

The above change in doctors' workload had implications to nurses who are now allowed to perform the skills which traditionally belonged to the medical professionals. Unfortunately there is a lack of research evidence or published reports to show how these skills, including physical assessment, have been mastered by

nurses, with the exception of nurse prescribing, of which there seems to be a good range of evidence.

Generally, physical assessment or physical examination is defined as '*a systematic examination incorporating four skills: inspection, palpation, percussion and auscultation*' (Bickley and Szilagyi, 2003). It is questionable which techniques are regularly used in diabetes consultation by DSNs, with the assumption (personal experience) that nurses rarely use percussion and palpation. Williams and Pickups (2004 p.21) indicated various clinical and biochemical features which can help practitioners to decide whether the person has type 1 or type 2 diabetes, although the distinction may not easily be made in some cases. In seeing patients with type 2 diabetes, doctors and nurses may also detect a wide range of clinical and biochemical features, known as insulin resistance or '*metabolic syndrome x*', This is characterised by glucose intolerance, hyperinsulinemia, hypertension, low HDL, high triglyceride, high PAI-1 and fibrinogen, atherosclerosis and central obesity (Williams and Pickups 2004 p.66). In addition to these, assessing any long term complication is crucial. This has influenced the diabetes monitoring system in the UK and all patients with diabetes are now regularly checked to detect for any complications as part of their annual reviews. NICE has also published and revised guidelines focusing on diabetes management. For example, in 2008, the recommendations on management of Type 2 diabetes in adults were published (NICE, 2008). In responding to the guidelines, physical assessment for those who are at risk of developing diabetes or who already lived with the condition needs to be conducted.

James, et al. (2007) from their review gave more information in relation to how the roles of DSNs have developed since 2000. In this report, they mentioned that all DSNs

were engaged in patient management, although it was not clearly highlighted what patient management were covered by the DSNs. Other roles included the involvement on dose adjustment, pump training and running a variety of clinics such as hypertension, CVD, foot, ante-natal, renal and pre-assessment prior to surgery. This report gave important evidence of the complex roles of DSNs. It also suggested some implications including the way the DSNs should have been prepared and supported in assessing their patients and in conducting health or physical examinations. To date, there is no research evidence to show how the assessment skills have been incorporated in diabetes consultations conducted by nurses. The majority of evidence seems to be focusing on identifying the roles of DSNs (The British Nursing Index shows 36 articles on DSNs, published from 1995 to 2011) and only a few of them addresses certain conditions such as diabetic retinopathy (Khan, Wong and Gorrod, 2001); cardiovascular risks factors (Mc Loughney, Khan and Ahmed, 2007) and renal management (Atherton, 2004). Therefore, further studies are necessary to clarify the scope and usefulness of physical assessment in the diabetes nursing consultation.

4.4. Clinical decision making

The interest in understanding the approach of nurses used in clinical decision making has increased since the 1970's as indicated by several publications based on studies which aimed to investigate this matter. In nursing, the strong emphasis of involving patients in decision making started to be made when the nursing process was firstly introduced (Yura and Walsh, 1973). Dowie (1988) considered nursing process as a general inductivist model of reasoning as within this process nurses should collect relevant data before a decision can be made. Decision making was incorporated in the nursing curricula and it is considered as objectively rational if it is the right behaviour for gaining the most value in the right situation (Steinbrunner, 1974 and Jenkins,

1985). Apart from the development of the nursing process, nursing theories such as Orem, Newman, Roy's model as well as Benner's level of competence from novices to experts have influenced the way nurses structure their clinical judgment (Field, 1987).

The use of these models should be implemented with caution, particularly in curriculum development due to incompleteness and a lack of testing and refining. Jenkins (1985) believed that decision making should be started at the educational level and nursing educators should consistently incorporate it within their support to students in nursing. Yet, for those who have just started nursing, decision making can also be a complex task. Thomson and Dowding (2002) offered a theoretical review on how this can be implemented into daily practice. In the UK, the inclusion of decision making within nursing education was initially made in the Project 2000 initiative that introduced a Diploma in Higher Education as the first qualification for nurses (Harbison, 1999). Tanner (1997) divided theories of decision making into two groups: from a rational perspective, and from a phenomenological perspective. The first perspective emphasised the use of rationale of logical reasoning to support any clinical judgements. This still suits the current guidelines which strongly recommend the use of evidence base in practice. The phenomenological perspectives suggested the importance of action which could exceed rational analytical thought. People who use this approach might realise the limitation of using the formal strategies of judgment, therefore there is a tendency to look at the situation from a broader perspective (holistic) and consider experience as part of their decision making. Banning (2008) confirmed the two decision making approaches in nursing: the information processing model and the intuitive-humanistic model. She also mentioned another approach

This above diagram highlights the process of decision making (cognitive processing). This process is influenced by the perception of the clinical situation. It should be noted that this perception is based on the individual's working knowledge as well as the ability to eliminate emotional and cognitive barriers. Within a practice environment, the availability of support from more experienced staff and external inputs such as peers, patients and other health care professionals can influence the ability of the practitioner to practice and consequently to reduce their cognitive barriers and to build organised clinical patterns. This could be the case in any clinical settings including the community setting where the patients are seen by the DSNs within this research project. The challenges could be higher when the decision involving advanced clinical practice issues. As O'Neil, et al. (2004) suggested, their model could be useful for novice practitioners, but over time and with repeated practice experiences, these practitioners should start to develop their ability to engage in more complex matters. Although this model offers a process of decision making, the application of this within specialist practices is questionable.

The complexity of decision making is not only related to how this skill needs to be learnt but also on the way this has been practiced by nurses. Buckingham and Adams (2000) indicated reasons including the diversity of terminology and theoretical concepts and due to the expansion of the role of nurses which demanded them to perform a wider range of responsibilities from direct patient care to managerial, medical and therapeutic work. One question which needs to be asked is whether those who work in the capacity of Diabetes Specialist Nurses tend to use hypothetical-deduction as normally used by doctors or intuition which is commonly linked with nurses.

There are other frameworks which can be used in decision-making by nurses. A further example is Hammond's cognitive continuum theory (Diagram 3) which was initially applied by Hammond in the late 1980s (Standing, 2007 p. 125) and has been argued to be useful for improving the understanding, effectiveness and accuracy of clinical judgement in nursing. This theory which originally developed from psychology embraces two contrasting approaches, intuitive/ experiential and analytical/ rational. As indicated by Hammond, 1978 (cited in Standing, 2007 p.125), the intuitive approach is linked with evolutionary and social learning to survive and adapt to any changes in physical, social aspects, situations and interaction. Whereas, the analytical approach is related to formal education in science, logic, mathematics, statistics, and computing/ technology with the aim to enhance the precision and reliability of decisions.

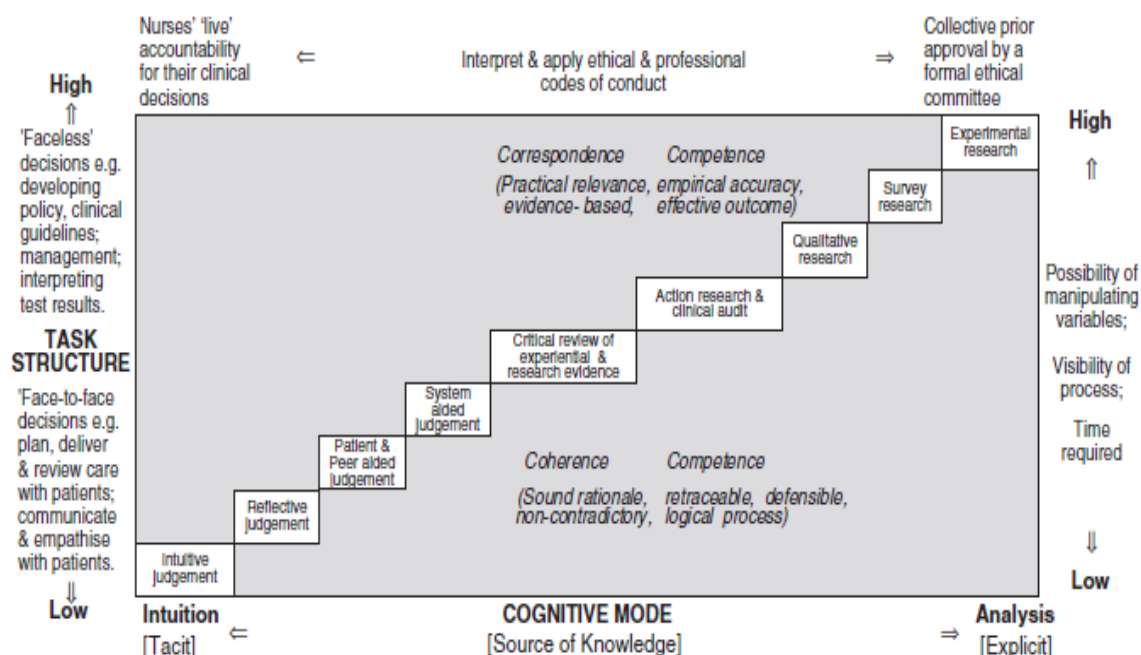


Figure 2 Standing's revised cognitive continuum of clinical judgement and decision-making in nursing – nine modes of practice.

130

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Diagram 3 Standing's revised cognitive-continuum of clinical judgement and decision making in nursing (Standing, 2007).

As indicated in the diagram, Standing (2007) recommended the use of the revised cognitive continuum as an educational tool and practice guide in decision making for nurses. Compared to the NCRM model (O' Neil, et al., 2005) which was more suitable for inexperienced practitioners, this model seemed to be structured for all levels of nursing covering the basic decisions (task structure) to policy making process (high level). The model emphasised strongly on the cognitive mode (nine modes of practice) and the use of different types of research (source of knowledge). The intuition based on intuitive or reflective judgements was considered to be a lower level of decision type, whereas the high level of decision process which involved analysis should be based on research such as survey or experimental research.

The model seemed to be useful in clarifying the position between clinical decision making and the source knowledge and research. Although this approach appeared rather complex to introduce this type of decision making, particularly to the undergraduate nursing education. Yet this approach has not been tested widely within nursing education and practice.

The application of the decision making concepts has been invested to assist diabetes nurses in some clinical areas in the UK, particularly since the involvement of the nurses in prescribing and initiating insulin. One work which can be mentioned is the system developed by Chapman (2008) at Keele University. He developed a decision support system using a technique known as Markov modelling. Within this system, any given clinical condition can be mapped out and the system will give a '*tree*' of potential decisions. The tree is supported by relevant probabilities and clinical outcomes derived from an appraisal of the evidence base. The nurses then can consider the best decision as recommended by the system while taking into account the individual characteristics of the patient. This tool was demonstrated to 150 non-medical prescribers in London in 2007 and over 75% of respondents would have liked it to be made available as a patient consultation tool.

Unfortunately, regardless of the general acceptance of the importance of decision making support and framework within diabetes care, there are practical issues related to prescribing or initiation of insulin. These issues were identified by McDowell, Coates and Davies (2009). From their survey involving a total of 1310 responses from DSNs and Practice Nurses with a special interest in diabetes, they found an uncertainty on who needed to make clinical decisions and the involvement of the patients and practice nurses seemed to be minimal. There were also different responsibilities

perceived by the nurses who worked solely in secondary care and those working both in primary and secondary care.

From this review, it appeared that decision making within clinical settings has altered to adjust to the role expansion and a change in health care philosophy. As highlighted by Chapman (2008), a structure which is based on evidence should be made available for the diabetes nurses in order to support them in exercising their clinical decision making skills. In addition to this, issues in decision making and partnership working should be addressed (McDowell, Coates and Davies, 2009). Since the introduction of holistic care, similar terms such as '*patient-centred care*' or '*individualised patient care*' have been used. This approach was considered as the central pillars of the Diabetes National Service Framework (DH and Diabetes UK, 2005). In order to support practitioners in implementing this approach, the Department of Health (2006, p.11) published guidance on the care planning process for diabetes service. In this document, care planning is defined as "*a process which offers people active involvement in deciding, agreeing and owning how their diabetes will be managed. It aims to help people with diabetes achieve optimum health through a partnership approach with health professionals in order to learn about diabetes, manage it and related conditions better and to cope with it in their daily lives*". Unfortunately, although this could benefit practitioners including DSNs and patients in assuring the requirement of patients' active involvement and partnership working, the implementation of this guidance has not been widely reviewed.

4.5. Being a prescriber

As discussed in the previous sections, the role of the DSNs is becoming more complex and challenging. Therefore, in seeing patients during diabetes consultation, apart from conducting health assessment and providing education, the nurses often need to review the patient's pharmacological and non-pharmacological interventions. There are some policies which have affected and expanded the scope of non-medical prescribing and the use of consultation skills in the health care practice:

- 24/48-hour primary care access, increasing capacity and efficiency
- Commission for Social Care Inspection standards
- Diabetes National Service Framework
- EU Working Time Directive
- NICE guidance
- Quality and Outcomes Framework.
- Shifting Care Closer to Home
- The Choosing Health White Paper
- The NHS in England
- The Operating Framework 2008/09 – Vital Signs: staff job satisfaction, patients' experience, increased access to primary care, access to out-of-hours care, prescribing indicators.

Department of Health (2008) in their report "*Making the connections- using healthcare professionals as prescribers to deliver organizational improvement*"

described case studies which included 6 Nurse and 6 Pharmacist Prescribing. There were 1991 Registered Nurse Independent/Nurse Supplementary Prescribers in the UK according to the data obtained from the NMC, as reported by Courtenay and Carey (2007). This number may have increased since the publication of that survey. The

Department of Health (2008) at a glance gave good information on how patients and services gained benefits from these health care professionals. Unfortunately, the authors did not explain how those who were involved in the case studies were selected. Another limitation is that the quality of information, which relied too heavily on the views by the selected prescribers. This document implicitly mentioned the link between nonmedical prescribing with some of the achievements, the importance of consultations skills including history taking, assessing patients and health history was explicitly included. Although there was no case involving diabetes care settings, this report gave some insight into the work of other health care professionals and specialist nurses, including pharmacist prescribers and nurses employed in other areas (accident and emergency, dermatology, walking centre, genito urinary medicine and care homes).

Another study conducted by Courtenary and Carey (2007) which involved a survey of 1992 nurses reported the extended role of the nurses working in a variety of clinical settings in the UK and the contribution of the nurses to diabetes management. Some implications in the way nurses should be trained and prepared were also mentioned in this report. Consequently, it is necessary to examine the requirements and structure of education to prepare nurses in taking their role as DSNs. In *The Standards of Proficiency for Nurse and Midwife Prescribers* (NMC, 2006), there is an explanation on how the Council has set up the requirements for the prescribing practice including education preparation and continuous professional development for nurse prescribers.

Prescribing in diabetes is a complex issue and diabetes nurses, who have a capacity to prescribe, should be able to access support in their actions. The support structure for nurse prescribers in diabetes care has been reviewed in a number of studies. For

example, Stenner, Carey and Courtenay (2009) from their case studies which involved interviews with 31 nurse prescribers, reported a wide range of support which was available to meet the nurses' training requirements and continuous professional development. The support came from clinicians, journal clubs, local prescribing group and the Diabetes Prescriber Network. In this study, only a small number of nurses did not have any formal mentorship during their preparatory period.

4.6. Summary

In this chapter, essential skills for the DSNs to conduct consultations were explored, reviewed and analysed by considering not only the contemporary evidence, but also the historical perspectives. The main areas which are addressed in this chapter are interpersonal skills, history taking, physical assessment and finally decision making and prescribing.

The essence of DSNs consultation is on their ability to establish a good interpersonal relationship with their patients. Peplau's work on '*interpersonal relations*' (Peplau, 1952) is reviewed and her principles are compared with the consultation proposition from Berne (1964) and Pendleton (2003). The analysis is expanded by considering relevant concepts such as empathy and active listening as well as by linking the more contemporary initiatives such as '*motivational interviews*'. It appears that these conceptual frameworks might be useful and implemented in diabetes consultation but with some precautions, such as with timing and the patients' backgrounds.

History taking and physical examination are the other two skills which are commonly included in the patient assessment phase. Unfortunately, the majority of evidence addresses these skills from a medical view point. In the diabetes competency

framework (TREND- UK, 2011), a range of skills are listed not only for DSNs but also for other levels of nurses. Psychosocial aspects have been also included within the diabetes assessment but again, the evidence on how the elements of history taking and physical examination implemented by DSNs are very limited. It can be argued that due to the complexity of diabetes and a wide range of services required, the structure should be creatively available to enable nurses to conduct their consultation effectively to meet the health needs of the patients.

The area of clinical decision making in nursing practice has attracted nursing scholars since 1970s, particularly in the USA, due to their expanding roles. In the UK, the inclusion of decision making was initially made within nursing education when the project 2000 was introduced (Harbison, 1999). Unfortunately to date, there are still decision making issues in diabetes care in the UK due to some uncertainties in who should make the decision and the partnership with the patients (McDowell, Coates and Davis, 2009). Efforts have been initiated to support diabetes nurses such as by designing support system/ tools to help diabetes nurses in decision making (Chapman, 2008). However, these system/tools still needs further development or studies to assure that the system is reliable.

The overall evidence surrounding consultation models and skills and how these have been implemented in diabetes care shows some uncertainties within this area. Although consultation models have been developed more than 50 years ago, but these models are mainly for medics. With the expansion of the nurses' roles in the UK health care system, Diabetes Specialist nurses have responsibilities including delivering consultations, yet it is not clear whether these consultations follow certain models or patterns.

The available evidence, which has been published since 1995, is mainly clarifying the roles of the DSNs and some patients' outcomes such as HbA1c. Unfortunately, the process and outcomes of consultation in the form of patients and nurses' experiences have not being explored sufficiently. , Therefore, this PhD research project focusing on the area of diabetes consultation is required.

Chapter 5 THE THEORETICAL CONSIDERATIONS

This short chapter places the derived consultation models into a process context based on principles of systems theory and discourse. The conceptual framework for this research was developed after conducting the literature review (Chapters 3 and 4). Miles and Huberman (1994, p.18) suggested that conceptual framework could be presented in either a graphically or narratively form. The framework should include key factors, concepts or variables and any presumed relationship among them. In deriving the framework, key findings from the literature review and experiential knowledge should be utilised. The elements obtained from both of these sources are explained in the following sections.

The review has critically investigated and analysed a range of consultation models and detailed how some elements of the models have been applied within the nurse-patient consultations, particularly those diabetes consultations conducted by DSNs. It appears that there are similarities within the selected models in the way that they attempt to formulate the structure of the consultation (for example Kurtz and Silverman, 1998 and Pendleton, et, al., 2003). Another aspect, which is widely addressed by the models, is the main elements of consultation such as tasks, power or position of the patient and the therapist and the approach of their interaction (for example, Berne, 1964).

The literature review helped in formulating the conceptual framework for this study (see Diagram 4) by considering elements or factors which could influence the dynamic of diabetes consultation conducted by nurses including the characteristics of

the nurse, the patient and the health care system. The AANP-UK and the Skills for Health (2008) indicated the knowledge or expertise of the nurse as a key component. This requirement was further indicated and specified in the Diabetes Competency Framework (TREND-UK, 2010) based on the levels of the nursing posts for unregistered persons to nurse consultant. The job descriptions selected from other trusts also gave useful information on the quality of the person required for the post of Diabetes Specialist Nurse. In addition to being knowledgeable, Norfolk et al. (2007) suggested another element: '*empathic motivation*' which is crucial for establishing therapeutic rapport. In contrast, Pooley, et, al (2001) focused more on how the partnership between the patient and the nurse needed to be 'shared'. They suggested this type of partnership, therefore the patients' expectations and characteristics needed to be identified and considered (Department of Health, 2006). Furthermore, Hasting and Redsell (2006) in their study highlighted that patients' expectations need to be identified in the early phases of consultation.

The literature review suggested a range of consultation models and the majority of them were designed for medical professionals. A number of papers (Brown, 2003; Tate, 2005; Warner, 2006) suggested the applicability of the models in nursing , however as suggested by Harper and Ajao (2010), they needed modification. Further review identified some essential aspects such as interpersonal skills (Berne, 1964, Pendleton, 2003), decision making (UKCC, 2001, Skills for Health, 2010 and Royal College of Nursing (2008), scope of consultation (Royal College of Nursing, 2008) and consultation stages (Kurtz and Silverman, 1998).

As indicated in the previous chapter, research focusing on patient- health care professional consultation should ideally include the measurement of not only the

process but also any outcomes (Mercer and Howie, 2006). Previous reports highlighted positive outcomes obtained from specialist nurses (Royal College of Nursing, 2008). Other studies also stated the outcomes in the form of biochemistry results such as HbA1c (Vrijhoef, et al., 2001). The review from TREND-UK (2010) was also used to identify the expected outcomes of consultations conducted by DSNs, as in their document, they highlighted the purpose of diabetes nursing which includes the patient's perceptions on living with diabetes, their ability to maintain their health, their understanding of diabetes, their ability to self-manage and their perceptions with quality of life. Unfortunately, although the purpose of diabetes nursing was clearly mentioned by TREND-UK (2010), the evidence surrounding the outcomes from DSNs' consultations is somewhat limited.

In the development of the theoretical framework, apart from using the findings from literature review, the correspondences made with Mercer and Howie (2006) and personal minutes of the meetings with Silverman were also considered. In addition to this, information from the Diabetes Specialist Nurses from Cambridgeshire and from those who attended the Annual Diabetes UK Professional conference in Glasgow (2008) was utilised too.

Examining the above elements, it appears that there is a pattern of the nurse-patient consultation which includes the input (the characteristics of the patient and the nurse), the process of nurse-patient interaction during their one to one consultation and their outcomes. This could be in the forms of biochemistry results or other expected parameters such as patient's experience/ satisfaction or their perceptions/ belief in their health or self-management. This structure is identical to the general system theory (Bertalanfy, 1974) which includes I (Input), P (Proses) and O (Outcome). This theory

has been selected as a foundation in formulating the framework. The general system theory has been applied in all fields of science including system psychology in order to understand human behaviour and experience in complex systems, therefore, this theory is applicable. See Diagram 4 below for details of this framework. In this framework, the characteristics, sequence and modes of consultation are indicated and all of these elements were investigated in this PhD study. The investigation also looked at the scope of consultation conducted by the DSNs. Other variables of consultation as suggested by Mercer and Howie (2006) and based on the literature review including decision making, engagement, empathy and partnership were also explored.

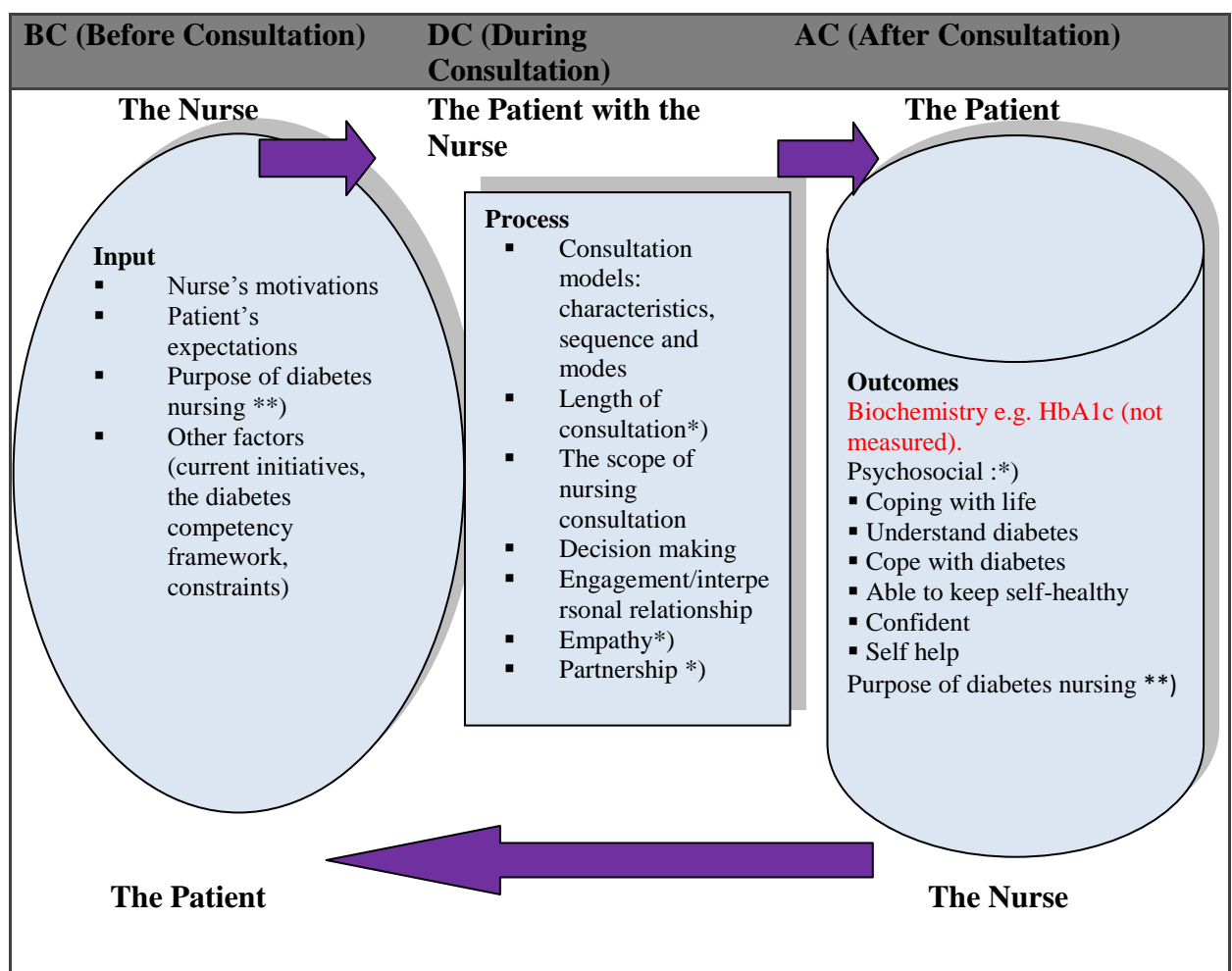


Diagram 4 Conceptual framework

Note: *) adapted from Mercer and Howie (2006) and **) TREND-UK (2010)

As explained in the above diagram, there is a pattern of consultation from the start (left diagram) to the end (right diagram). This structure is based on a general system theory (Bertalanfy, 1974) which includes **I** (Input), **P** (Process) and **O** (Outcome). In the framework, the components of the system have been modified by using three different names to show the system : **BC** (Before Consultation) is identical with input, **DC** (During Consultation) is identical with process and **AC** (After Consultation), identical with outcome.

In the input, the aspects obtained from the literature review are included such as ‘empathic motivation’ (Norfolk et al., 2007), patients’ expectation (Hasting and Redsell, 2006) and other factors. These include any current diabetes care initiatives and the diabetes competency framework as they could influence how the nurse approaches the-patient and how this needs to be organised. In the process, many aspects are included. The literature review suggested a range of consultation models (mainly medical) and in this framework, the characteristics, sequence and modes of consultation are indicated. The investigation therefore looked at these aspects as well as the scope of consultation conducted by the DSNs. Other variables of consultation as suggested by Mercer and Howie (2006) and based on the literature review including decision making, engagement, empathy and partnership were also explored. The framework indicates the outcomes which could be in the form of biochemistry results such as a reduction in HbA1c or the patient’s perceived outcomes. The purpose of diabetes nursing is also included in the conceptual framework this was tailored with the research objectives.

The complexities of the issues under investigation influenced the selection of data collection and analysis. The information relating to the nurse's motivation and patient's expectations was explored qualitatively through interviews. Similarly some aspects of one to one consultation were investigated qualitatively by interviewing the nurses and the patients. However, it was felt that the consultation sequence would not be sufficient to be examined through interviews, so other methods such as non-participative observation was considered. In contrast, two other variables such as empathy and partnership/engagement needed to be measured statistically by offering the participants with statements presented on a Likert scale. Another consideration was related to measuring the outcomes as it would be impractical to use qualitative methods. This type of measurement is commonly investigated quantitatively, particularly if the association between the outcomes and other variables need to be measured. Taking into account of all these data collection techniques, it shows that the aims of this research would not be met by utilising a single approach either qualitative or quantitative and a mixed methods design is therefore appropriate (Creswell and Plano Clarke, 2010).

Chapter 6 RESEARCH METHODOLOGY

This chapter discusses and justifies the methods chosen to conduct this research. The research question and aims are formulated and then followed by a summary and critiques on two main research paradigms: positivism and constructivism. This summary gives the reason why the research question could not be answered by using a single approach, but by utilising both qualitative and quantitative methods. The review then focuses on the selected mixed methods involving qualitative, quantitative and an integration of both of them. Mixed methods scholars commonly use abbreviations to express the strands of the qualitative phase as QUAL and the quantitative phase as QUAN respectively (Creswell and Plano Clark, 2011). In this chapter, the data collection, analysis and interpretations in each stage are explained. Reflections on potential ethical issues and strategies to minimize them are also made at the end of this chapter.

As argued in Chapter 5, the rationale to use mixed methods is due to the complexity of the research question surrounding the diabetes consultation which can be answered by obtaining views and experiences from the patients and the nurses, as well as by identifying the consultation pattern. In agreement with Mercer and Howie (2006), research focusing on consultation should investigate both the process and outcome. According to these Authors, the process can be related to '*continuity of care*' and '*length of consultation*', whereas the outcome can be linked with the patient's understanding of their condition including '*coping*'. Mixed methods appear to be suitable to evaluate these attributes due to their ability to capture a broad perspective in relation to human experience and outcome (Hesse-Biber, 2010).

The following sections offer a review of two paradigms: positivism and constructivism. A critique is given of these paradigms to clarify the reason why a single method cannot be used in this study and this discussion is followed by a review of mixed methods with justification as to why these methods are suitable for this study.

6.1. Review on positivism and constructivism approaches

The paradigms of research span different eras and each paradigm reflects knowledge at a particular time frame. Lincoln and Guba (1994 p.105) indicated four different paradigms which are positivism, post positivism, critical theory and constructivism. Similarly, Creswell and Plano Clark (2011) offered four worldviews used in research which consisted of post positivist, constructivist, participatory and pragmatist worldviews. In this section, the two paradigms: positivism and constructivism are reviewed, because they remain the two prominent paradigms in research today. This review clarifies the reason why the mixture of quantitative and qualitative is suitable for this PhD research project.

6.1.1. Positivism

Positivism is a philosophy which has developed from 1830 onwards. Initially, Henri Saint- Simon started to use the terms “*industrial*”, “*positive*” and “*philosophy positive*”. Yet, these terms were elaborately constructed to the overall system of positivism by Auguste Comte. Therefore, despite some arguments, Comte has been considered as “*the Father of Positivism*” (Lenzer, 2009 p.xi). As reviewed by Lenzer (2009), the main essence of positivism is the recognition of positive facts which can be observed and determined by objective relations and laws. Since this time, scientists

have changed the way they have explained phenomena, in that they use scientific thinking and practice to reveal “*the truth*”. There is also a belief that there is only one reality (Bilton, Bonnet and Jones, 2002; Bruce, Pope and Stainstreet, 2009) and this may be understood if an observer or researcher applies appropriate methodology.

Positivists consider that inquiry should be based on true knowledge of explicit phenomena and the relationship between them. They should not make hypothetical inferences about the implicit structure of phenomena, but identify the phenomena systematically and identify the connection between them (Hassard, 1995). Returning to Comte’s view, he also looked at the strengths of positive science which depended on its practical application. His pragmatic ideas stressed on the notion that positivist knowledge should be practical, objective, had a value in everyday affairs and could influence changes in our basic beliefs and social life. These preferences have also been reviewed by Smith (1998) who supports this idea.

Following Comte’s ideas on positivism, there were other positivists who expressed their views in different ways, such as Mill (1806-1873) and Spencer (1820-1903) (Hassard, 1995). Mill shared his belief with Comte in relation to the laws governing the concomitance and succession of social facts which relied on social statistics and dynamics. He argued the tasks of scientists and tried to propose rules of *induction* and *deduction* (Hassard, 1995). Bruce, Pope and Stanistreet (2009) briefly clarified the differences between induction and deduction. Quantitative research uses deductive reasoning which starts with one or more hypotheses which can then be tested, for example, by observation or computer tests. Therefore, formulating a clear hypothesis is important in deductive research.

Mill (1806-1873) proposed that we could deduce lower-level laws from higher laws. Through his own reductive positivism, he argued the ability of social science in predicting social events (Hassard, 1995). Spencer gave foundations for what we now call “*structural-functional analysis*”, a framework which has been utilised in social theory building to consider the complexity of society under investigation (Macionis and Gerber, 2011). His main work produced two main themes which were ‘*organismic analogy*’ and ‘*the processes of evolution*’. In the organic analogy, Spencer suggested similarities between society and organisms. For example, both society and organisms grow in size, change their structure and functions and develop their ability to adjust to their environment. In describing the principle of evolution, he stated the important aspects of ‘*survival of the fittest*’, a phrase which Spencer took from Charles Darwin’s work to express how the ability of favoured races to survive depends on their ability to face any struggle in life (Smith, 1998).

Later, some philosophers, such as Karl Popper and Thomas Kuhn criticised the essence of positivism which relied on metaphysical speculation and did not believe in the proposition of pure logic (Hassard, 1995). In this speculation, the questions were generally unanswerable by the scientific approach. This happened in the early 20th Century, an era when post positivism emerged (Popper, 1972).

From an epistemology view point, one of the most common practical critics of the positivist approach is that it can be unsuitable to examine human beings and their behaviours. Humans are not ‘objects’, and their behaviours can be influenced for example by feelings, perceptions and attitudes. Positivist approach tends to ignore these elements; therefore it cannot give details of human experiences. Following this critic, researchers particularly from the social discipline started to adopt post-

positivism. Denzin and Lincoln (2008, p.14) have clarified the position of post positivism in the use of a wider method to discover and verify theories. So often, multiple perspectives and triangulation are needed in post positivism.

The application of positivism in health and social care, including nursing, can be seen by looking at various research projects which consider the importance of objectivity in the methods including those conducted in quantitative studies. In practice, the principles of positivism can be utilised in quantitative or qualitative studies but in general this tends to be applied in quantitative research. Within diabetes, research which applies a quantitative approach predominates. This can be related to the fact that large research projects in diabetes care primarily focus on clinical research, such as those conducted by the United Kingdom Prospective Diabetes Studies (UKPDS) Group (UKPDS, 1998) and the Diabetes Control and Complications Trials (1993).

The domination of quantitative research can still be seen in our current health care research, particularly in medical research. The method seems to be more favourable as characterised by its superiority within the context of evidence presented in the majority of NICE guidelines and the Cochrane Collaboration. This can be linked to the wider applications of clinical research within the current health care practice including the NHS (National Institute for Health Research Clinical Research Network, 2012). Many of the studies are Randomized Controlled Trials which is considered by many medical professionals to be the most robust form of clinical trial.

In contrast, health service research (HSR) focuses more on how people get access to the health care services or to health care practitioners, cost of the care delivery as well as what happens to them following the care. Therefore the social context is usually

assessed within this research (Sheikh, 2011). HSR is relatively new, however this science has attracted many disciplines including nursing. Many HSR studies have been conducted qualitatively and in this PhD project, quantitative method was used in the second phase, following the qualitative investigation, as a wider survey was required for context data. The following section gives a review of constructivism and qualitative method. Details on how the method was implemented in this research are given in the mixed methods section.

6.1.2. Constructivism

The main philosophical essence of constructivism is the meaning of the world around us. Constructivists are interested in understanding lived experiences which can be complex. Schwandt (1994 p.118) pointed out that within this paradigm, it is assumed that knowledge and meaning are individually constructed and inter-subjectively negotiated. Furthermore, Schwandt (1994 p.125) argued that from the constructivist point of view, knowledge and truth are the result of individual perspectives and there is more than one version of reality.

Constructivism is typically associated with qualitative approaches and the understanding or meaning of the phenomena captured from the research participants' subjective views (Creswell and Plano Clark, 2011). Denzin and Lincoln (2008 pp.3-14) summarised qualitative research from its history, definition, trend and resistances. According to these authors, the history of qualitative research particularly in the USA is complex and any definition of a qualitative research study should be made by looking at its complex history. There is no single method in qualitative research and it does not belong to any single discipline. They also stated that the word '*qualitative*' implies an emphasis on the qualities of entities and on the process of meanings that are

not experimentally examined or measured (if measured at all) in terms of quantity, amount, intensity, or frequency (Denzin and Lincoln, 2008 p. 14). In summary, these authors stressed the core elements of qualitative research as being “*the social construct or the natural settings of the reality, the close partnership between the researcher and the participants or what is investigated and the situational constraints that shape inquiry*”.

Qualitative approaches are widely applied by social scientists. They do not make assumptions about the phenomena under investigation until they have been observed. Consequently, qualitative researchers tend to use an inductive reasoning in their research and involve repeated observations in their studies. There are many methods which can be used to obtain insight into the experience, and the meaning and interpretation of those being observed such as interviews, focus groups, ethnographic work or a collection of narratives (Schwandt, 1994 p.125). In Table 11, some selected qualitative research methods that have been applied to explore diabetes experiences are listed.

Authors	Research area/ title	Results
Eborall, et al. (2007)	Patients' experiences of screening for type 2 diabetes	Participants' perceptions changed as they progressed through the screening programme
George and Thomas (2010)	Lived experience of diabetes among older, rural people	Older people with diabetes introspect and question their condition which based on four connected themes
Gillibrand and Stevenson (2006)	The personal experience of young people with diabetes exhibiting either good or poor metabolic control	The Extended Health Belief Model (EHBM) is an adequate model for understanding the socio-psychological factors in young people with diabetes,
Hood, et al. (2009)	With age comes wisdom almost always too late': older adults' experiences of T2DM	Understanding the experiences of older adults who have lived with type 2 diabetes (T2DM)
Ralston, Revere and Robins (2004)	Patients' experience with a diabetes support programme based on an interactive electronic medical record	Participants' experiences support further study of open access to the electronic medical record and online communication between patients and their care providers
Stone, et al. (2008)	The development of a modified version of a patient education module for non-English speakers with type 2 diabetes in two South Asian populations in the UK	Action research approach was considered useful in terms of facilitating the development process through identification of key issues and focused reflection

Table 11 Selected qualitative studies to investigate the patients' experience, perception and understanding of diabetes.

As highlighted, the table shows a range of qualitative concepts or terms such as ‘experience’, ‘education’, *perception*, ‘understanding’ and ‘reflection’. Therefore, the application of qualitative method such as concept analysis, interviews and examining medical records are appropriate.

Interestingly, Johnson (1999) criticised some qualitative studies due to the involvement of what he considered as ‘*mystical views*’, although the meaning of it was not readily explained. He observed the excessive use of precise procedure and strict definitions in some qualitative studies which according to him could risk the credibility of qualitative research, or in other words ‘*qualitative version of positivism*’. He stressed that qualitative inquiry should follow qualitative protocols. This could be a challenge for researchers for whom work involves a triangulation or embedding of both positivism and constructivism data or analysis to answer a single phenomenon. In this PhD research project, qualitative and quantitative data was collected and then analysed separately to minimise confusion. The integration was made in the last phase of the study (further explanation is given in the following sections).

Similar to the approaches being used by positivists, qualitative designs have also been extensively criticised. There are many issues in qualitative research, such as the subjective nature of the findings and the inability to make generalizations. These arguments are analysed in the following section, particularly by comparing the characteristics of quantitative and qualitative research and their advantages and disadvantages to the selection of mixed methods under pragmatic paradigm.

6.1.3. Critiques on quantitative and qualitative research

Many authors have looked at the strengths and weaknesses of each of these two research traditions. For example, Miles and Huberman (1994) identified the distinction between them by comparing the aim, examining the data collection and presentation, and checking their ability to generalise the research findings. Details of the comparison are presented in the Table 12.

Qualitative	Quantitative
"All research ultimately has a qualitative grounding" - Donald Campbell	"There's no such thing as qualitative data." Everything is either 1 or 0" - Fred Kerlinger
The aim is a complete, detailed description.	The aim is to classify features, count them, and construct statistical models in an attempt to explain what is observed.
Researcher may only know roughly in advance what he/she is looking for.	Researcher knows clearly in advance what he/she is looking for.
Recommended during earlier phases of research projects.	Recommended during latter phases of research projects.
The design emerges as the study unfolds.	All aspects of the study are carefully designed before data is collected.
Researcher is the data gathering instrument.	Researcher uses tools, such as questionnaires or equipment to collect numerical data.
Data is in the form of words, pictures or objects.	Data is in the form of numbers and statistics.
Subjective – individuals? interpretation of events is important ,e.g., uses participant observation, in-depth interviews etc.	Objective? seeks precise measurement & analysis of target concepts, e.g., uses surveys, questionnaires etc.
Qualitative data is more 'rich', time consuming, and less able to be generalized.	Quantitative data is more efficient, able to test hypotheses, but may miss contextual detail.
Researcher tends to become subjectively immersed in the subject matter.	Researcher tends to remain objectively separated from the subject matter.

Table 12 Comparison of qualitative and quantitative research (Miles and Huberman, 1994).

Looking at the above comparison, there are advantages and disadvantages of qualitative and quantitative research. In selecting the methods, the researcher needs to consider the aim of the study and how the data can be precisely collected and analysed. As indicated in Chapter 1, the aim of this PhD research was to seek evidence

of the nurse-patient consultation process and the outcomes, and as indicated in Table 12, the qualitative phase is recommended during the earlier phase of the research project then followed by a quantitative investigation; therefore, this approach is expected to give some advantages. The following exploration focuses on critiques of these two research approaches.

Quantitative research into the human state has been criticised widely, particularly by those who are in favour of qualitative research (Denzin, 2008) or who have combined both methods (Creswell, 2008). In his review of the limitations in quantitative research, Creswell (2009) selected some examples, such as the use of operational definitions which could limit the findings. He also indicated other limitations for example laboratory studies might give different results if the objects were observed in their natural environment. Other issues could be related with the absence of contact between researchers and the respondents or objects under investigation. Another limitation could be linked with statistical correlation which is based upon research variables and the omission of other related factors in the calculation. In addition to these critiques, the efforts to capture measurable phenomena in quantitative research such as '*discrimination*' or '*empathy*' could be difficult and in some cases, they failed to generate hypotheses. It is therefore necessary to consider '*day to day lives*' of the phenomena which sometimes is being taken away when quantitative researchers follow what we call '*a purely quantitative logic*', a situation in which the researchers rule out the study of many interesting facts relating to what actually people do on a day-to-day basis (Silverman, 2006).

Similarly, qualitative research has received criticism from many authors. Denzin and Lincoln (2008, p.11) suggested the importance of understanding all these critics by

differentiating between the analytically political role of qualitative methodology (external) and the procedural (internal) one. The political role is interested in examining the methodology for example by relating the research with political agendas or funding, whereas procedural criticism is focusing on how qualitative research can be used to produce knowledge about the world. In their summary, Denzin and Lincoln (2008, pp.10-11) also included the criticism that qualitative researcher may be seen as '*soft*' science. Other critics have devalued their contribution by saying that some of them produce fiction and not science and their inability to verify objective '*truth*'. Of course these critics are viewing it from quantitative perspectives, as from the qualitative point of view, it is not the intention to verify '*truth*' in the same forms as in quantitative studies.

In addition, Hammersley (2008 p.20-38) reviewed the development of qualitative research over the past forty years in which he named it as '*one the failings of qualitative research*'. He started by looking at the historical perspectives when qualitative research was intensively promoted in the period between the 1960s and 1970s. This was due to the need to understand people's perspectives and the belief that social life is a contingent and emergence process. In summary, he listed the following areas which show the failure of qualitative researchers to defend their work against quantitative critics:

- Qualitative researchers have failed rigorously to apply concepts and to record measurable differences.
- They are also unable to rule out the explanation given by quantitative researchers for the use of physical or statistical control.

- More importantly, qualitative outcomes cannot be generalised. However, it needs to be noted that the issues around generalizability and transferability of qualitative findings are debatable. Delmar and Lincoln (2008) for example, argue the generalizability of qualitative findings should be emphasized on its recognisability and challenge to practice.

In response to those who favour qualitative research, Hamersley (2008) also noted various prepositions such as the belief that qualitative research does not need to be conducted on its own, qualitative work cannot be measured by the parameters of quantitative research and the above critics have misunderstood the nature of social research.

In critiquing the two research paradigms, it would be useful to consider the views from the opponents (Fielding and Schreier, 2001). They considered how qualitative researchers view quantitative methods and how their counterparts, those who consider themselves as quantitative researchers, view qualitative work. Still, this could present difficulties, as it is not easy to capture their views. Researchers from different disciplines may have different opinions and there is a big variation from one country's social and behavioural community to another.

The publications of different reports/ reviews have identified the advantages and disadvantages of quantitative and qualitative paradigms. Purists still maintain their own position (Johnson and Onwuebuzie, 2004) and the distinction between the two remains a debate. This situation has created a continuation of the paradigm wars across the social/ behavioural sciences (Alise and Teddlie, 2010), and has led to the idea of approaching research from a different perspective, such as by considering the use of both qualitative and quantitative methods, rather than by separating them. For the last

few years, Tashakkori, Teddlie as well as other well-known mixed methods researchers such as Creswell, have continuously examined and developed mixed methods from its philosophical and methodological dimensions. Philosophically, mixed methods are under the umbrella of pragmatism. Tashakkori and Teddlie (2009 p.7) defined pragmatism as *“a deconstructive paradigm that debunks concepts such as ‘truth’ and ‘reality’ and focused instead on ‘what works’ consequences”*.

6.2. Epistemological assumption

As explained in the introduction, the care management of diabetes is complex. In understanding how nurses and patients view their experiences, interact with each other in a consultation context and how the consultation may result in the expected outcomes, there is a need to select a design which can capture diabetes consultation from a broader perspective. Mixed methods were appropriate due to the ability to cover the complexity of human phenomena (in this case, what experience did the nurses and patients have with regard to their consultations) and to show the researcher’s insight into the studies (how the patient and the nurse interacted with each other within a consultation context) (Sandelowski, 2000). In agreement with this trend, Andrew and Halcomb (2009) indicated that mixed methods have an ability to address complex research questions and can offer dynamic strategies for the research to explore inquiries relating to working with families and communities.

It is difficult to find out when exactly the terminology of mixed methods was introduced. The definition should be differentiated from *‘multi methods’* which refer to the use of more than one method in either qualitative or quantitative research (Onwuegbuzie and Turner, 2007). In 2003, Tashakkori and Teddlie (2003, p.711) mentioned the essence of mixed methods which is the use of both qualitative (QUAL)

and quantitative (QUAN). Further definition was expanded by Jonson, Onwuegbuzie and Turner (2007, p.118) following their synthesis of the perspectives of 31 mixed method Scholars. They stated that “*Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purpose of breadth and depth of understanding and collaboration*”. Similar definition was given by Creswell and Plano Clark (2011) who considered it as ‘*a procedure for collecting, analysing, and “mixing” both quantitative and qualitative methods in a single study or a series of studies to understand a research problem*’. There are similarities in these definitions, as they all state the use of both qualitative and quantitative methods in a single study.

Historically, mixed methods have been increasing in popularity since the 1990’s (Onwuegbuzie et al., 2005) and there appeared to be more mixed methods research articles published from the 1990’s onwards which have contributed to its popularity. Jonson, Onwuegbuzie and Turner (2007) argued that the philosophy of mixed methods could be linked even to the ancient Western philosophy when Greek philosophers found out the way to view the world by considering ‘*truth*’ as singular or universal (according to Socrates and Plato) or as multiple or relative (Protagonists and Gorgias or other Sophists). Furthermore, Jonson, Onwuegbuzie and Turner (2007) considered the position of mixed methods to lay between the extremes Plato (quantitative research) and the Sophists (qualitative research). This has located mixed methods within the philosophy of pragmatism as the methods utilise multiple viewpoints or perspectives derived from both quantitative and qualitative stand points. The following diagram indicates the qualitative- quantitative continuum and the degree how both methods could be utilised or mixed in a single research project.

Graphic of the Three Major Research Paradigms, Including Subtypes of Mixed Methods Research

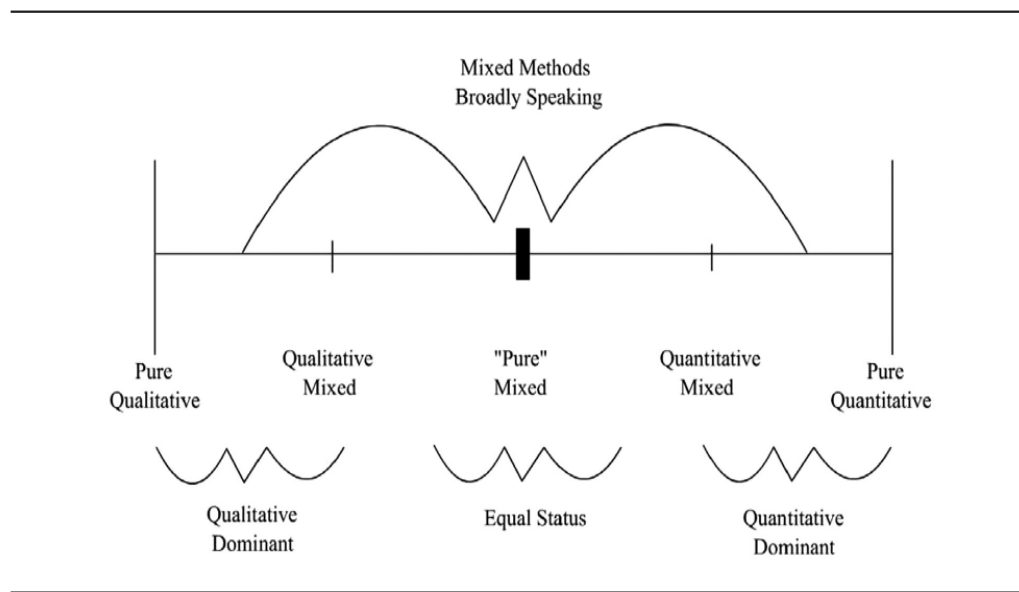


Diagram 5 Qualitative and quantitative continuum (John, Onwuegbuzie and Turner, 2007).

The diagram indicates that in pure mixed (the middle point); there should be a balance between qualitative and quantitative. In contrast, in pure qualitative, all paradigm characteristics of qualitative research will be followed. This also is the case for quantitative research which must follow all paradigm characteristics of quantitative research. In this PhD project, more data and analysis was obtained in order to answer the first two qualitative research objectives; therefore, qualitative is more dominant.

Alise and Teddlie (2010) revealed a figure of the use of mixed methods in a wide range of disciplines. In their report, they mentioned that mixed methods were more prevalent in applied disciplines such as nursing and education (16 %), than pure disciplines such as sociology and psychology (6%). Unfortunately to date, there is no clear figure of the number of mixed methods utilised in diabetes nursing.

Tashakkori and Teddlie (2009) highlighted that the existence of mixed method research is not as well-known as qualitative or quantitative studies, again because it only started to emerge 20 years ago. This PhD research was expected to contribute to mixed methods particularly by giving an example of how a sequential design could be conducted in a health care research. The use of the findings from the first phase: QUAL to suggest the second phase: QUAN in this PhD research could also suggest the way in which the findings from the qualitative phase were further explored quantitatively. It was also hoped that the data integration from this PhD research would reveal another evidence of mixed methods data integration.

6.3. Research design

There are many ways to combine QUAL and QUAN. It is important to carefully look at the research question/s before the type or level of combination can be decided. Tashakkori and Teddlie (2009 p.26) offered two techniques using parallel mixed designs or sequential mixed designs. The first designs which are also named as concurrent mixed method designs, allocate QUAL and QUAN in a parallel pattern (Dawn et.al, 2005; Derwing, Munro and Thomson, 2008). Whereas in sequential mixed designs, the QUAN and QUAL are conducted in chronological order. Some use it by starting the investigation qualitatively, followed by a quantitative approach (Goodridge et al., 2009) or vice versa (Castro et.al, 2007; Goodridge et. al., 2009; Emlet, 2007, Andrew, et al., 2011). Table 13 indicates some of the research projects.

Similarly, Creswell (2009 p.208) indicated that if QUAN is followed by QUAL, the design will be explanatory in principle, whereas if the phases are reversed, it will be exploratory respectively. In explanatory design, Creswell (2009) suggested that QUAL could be used to investigate or to explain any matters obtained from QUAN which

needed further explanation, whereas in exploratory design, QUAN could be conducted to expand or confirm the findings from the QUAL phase.

Within this project, the combination was in the manner of sequential mixed designs and was exploratory. The reasons to choose this type of combination are as follows:

1. In the first part of the study (QUAL), the focus was on establishing a good rapport with the research participants as well as to familiarise with the setting where this research was conducted. Following this approach, the research then continued by recruiting the required participants, obtaining the views from the patients and diabetes specialist nurses and observing consultations. This type of sequential design has been successfully implemented by previous mixed methods researchers such as Goodridge, et al. (2009).
2. The second part of the study (QUAN) aimed to expand the exploration on diabetes consultation from a wider perspective and to measure any correlation. Miles and Huberman (1994) suggested that researchers use quantitative phase in the later stage of the research and this suggestion was relevant to this PhD study, as the data and findings obtained from the first phase did suggest further issues for investigation. This method is also supported by Creswell (2009 p.212) who identified some advantages of using sequential exploratory strategies such as the ability to offer a clear and straightforward implementation. As argued by Creswell (2012) the strategies could also help the researcher to expand the qualitative findings or develop an instrument. Alternatively, existing instruments could be modified to match the themes or statements revealed from QUAL. In this research, the Consultation Quality Index-2 (CQI-2) created by Mercer and Howie (2009) was modified and expanded by including findings from QUAL.

3. The last phase of the study focused on QUAL and QUAN integration and interpretation, where the findings obtained from two methods were integrated or contrasted in order to obtain holistic views of the research findings.

The step by step exploratory design as mentioned above was conducted by following the recommendations from Creswell and Plano Clark (2011, pp. 218-219), who highlighted that in this design, qualitative phase could be carried out before quantitative stage and then ended with an interpretation phase.

Authors	Topics	Mixed methods
Bradley, et al. (2009)	The effects of interprofessional resuscitation skills teaching	Observation using video tapes followed by group interviews
Castro and Coe (2007)	Beliefs about self-care during pregnancy	Quantitative followed by qualitative analysis
Conaglen, et al. (2009)	Sexual dysfunction in female partners of men with erectile dysfunction	Questionnaire followed by interviews
Dubois and Loisel (2009)	Cancer informational support	mixed methods sequential design; quantitative followed by qualitative investigation
Emlet (2007)	Experiences of stigma in older adults living with HIV/AIDS	Quantitative followed by qualitative interviews
Goodridge, et al. (2009)	The quality of dying of patients with COPD	A sequential mixed method, focus groups followed by a survey
Holden, et al. (2009)	Physical therapists' attitudes and beliefs regarding exercise and knee osteoarthritis	A survey followed by semi structured telephone interviews.
Krein, et al. (2008)	Health prevention	Sequential explanatory study: a survey followed by interviews and observations.
Ruffin, et al. (2009)	Patients' choices, perspective and satisfaction	10 focus group interviews and a survey of the 93 focus group participants. Qualitative interviews: questionnaire, and the Patient Satisfaction Scale
Rowell and Polipnick (2008)		
Dawn, et al. (2005)	The barriers and facilitators influencing the provision of decision support by call centre nurses	A mixed qualitative and quantitative descriptive study

Table 13 Selection of studies using mixed-methods sequential design

Table 13 shows some selected research which uses sequential designs (not necessarily focusing on diabetes) (Whiting et al., 2006). Some of the studies combined the qualitative and quantitative methods by clarifying their philosophical position; others

integrated its methodological aspects. As reviewed previously, from the philosophical point of view, the qualitative research method is based on its interpretivist values whereas the quantitative research only merits if its process follows empirical investigation originally developed from both philosophical positivism and statistics. Trochim and Donnelly (2007) suggested that in applied social research, combining qualitative and quantitative methods could give great value. This suggestion is similar to those from Alise and Teddlie (2010) who reported the more prevalence use of mixed methods in applied disciplines. The availability of examples from these previous studies and the benefits obtained from utilising both methods have helped in structuring and applying the required steps in this PhD research. The next parts explain the way each stage of the research process was implemented. Diagram 6 shows how the research was sequentially conducted.

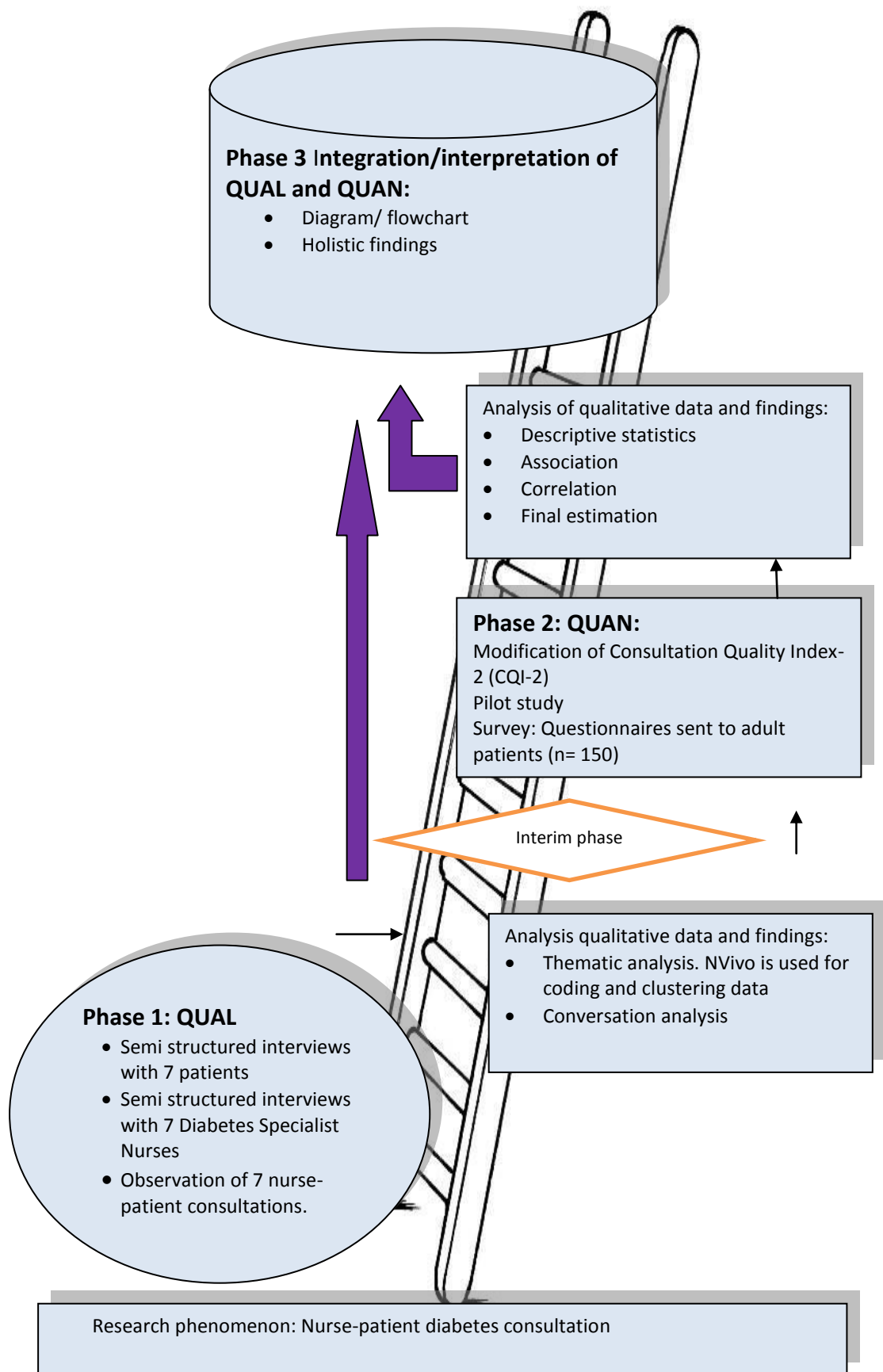


Diagram 6 The sequential research design

The diagram explains the steps taken to investigate the research phenomenon (at the bottom of the diagram). The ladder shows how the investigation is initiated by QUAL, then QUAN and ending by the integration of QUAL and QUAN. In each stage, the data collection and analysis techniques are indicated. Creswell (2009) explained that in the sequential exploratory design, the weight is generally placed on the first phase. The aim of QUAL, as he indicated is to explore a phenomenon. Within this research this stage was expected to explore the patients' and diabetes specialist nurses' views and experiences of their diabetes consultations. During this phase, the pattern of consultation was also examined by observing selected nurse-patient consultations. The rationale behind it was mainly due to the fact that this area had not been studied in the United Kingdom before.

Looking at previous researcher projects, there were many researchers who used qualitative studies to understand and describe the world of human experiences such as Gilibrand (2006), Eboral, et al. (2007) and McGeehin (2009). This gives strong evidence that understanding the experiences of those with diabetes could be obtained via qualitative investigations. The following section explains how the QUAL phase was conducted, starting by approaching the diabetes team and familiarising the research setting and then followed by recruiting the research participants and collecting the data via semi- structured interviews and non-participative observations.

6.3.1. Phase 1: Qualitative (QUAL)

6.3.1.2. Selection and recruitment of the research participants

This research was conducted at a diabetes centre which opened to the public with the relocation of the community diabetes team in October 2008 (Local NHS, 2008). After the agreement as stated in the Local Health Improvement Plan, the diabetes team was

moved as part of a 20% shift in care from the hospital to the community (Ballard, 2007). The centre provides services for people with long term conditions particularly diabetes, respiratory problems and tuberculosis. A variety of professional help is provided, including lifestyle education and self-management. Service users can also gain access to an expert clinical team and use facilities within the premises including a teaching kitchen, fitness room, education, consultation and treatment rooms.

The Diabetes Team which consisted of a consultant diabetologist, specialist nurses, dieticians and podiatrists were available to help the people in the community. The population of the area where this study was conducted totals 163.300 (Mid-2007 population estimate, National Statistic) of which 6952 people were registered with diabetes (prevalence of 5.5%) (APHO. 2008, APHO and DH. 2009). This figure was comparable to the national prevalence (5.4%). The majority of the patients were seen at their General Practitioner Surgeries and only those who were referred to the DSNs team were seen at the centre. There were 8 Diabetes Specialist Nurses (DSNs) at the centre, one of which is a Paediatric DSN who was not involved in the study.

The plan was to recruit seven DSNs and seven patients for interviews and seven nurse-patient consultations for observation. The target was met and in addition to this, two family members expressed their willingness to accompany the patients and agreed to participate in the interviews and observation. Purposive sampling was used to select the participants for the interviews, whereas the principles of convenience sampling were also considered when selecting the consultations. Purposive sampling seemed to be appropriate due to its cost effectiveness (Ferber, 1997). Cost particularly is relevant to quantitative studies which needs a larger sample size (Bruce, Pope and Stanistreet, 2008). One common limitation of convenience sampling was reported by Von Gunten

and Duc (2006) in his comparative study due to the different sizes of the samples in each group. However, this PhD project did not intend to compare groups, therefore, this limitation was not applied, and generalizability of the findings is not claimed, though transferability is.

In order to minimise sampling risks, two basic sampling criteria from an analytical point of view were followed: the relevance of the sample and sample size. For the nurses, they should be employed in the capacity of diabetes specialist nurses and deliver consultations to adult patients on a day to day basis. Considerations were given by recruiting patients from a variety of backgrounds, including their gender, age, types of diabetes and reasons for seeing the DSNs.

A variety of ways were used to recruit the DSNs and patients. Posters and leaflets (Appendices 3 and 4) which had been designed specifically for this project were made available at the centre to attract potential participants. In addition to this, help from the Diabetes Team Leader was sought to invite the DSNs. As there were only eight DSNs; all of them were recruited with the exception of the Paediatric DSN.

The recruitment of patients was helped by the DSNs who acted as the key contact. Some researchers such as Gelling (2011) in agreement with Serge, Buckwalter and Friedman (2011) highlighted the benefits of involving clinical staff in recruiting patients, and this strategy appeared to work smoothly within this research. For those who agreed, an invitation letter, together with participant information sheet and consent forms were then given and then explained to them individually prior to the interview. The recruitment target was met and all these patients and DSNs agreed to

participate. The demographic data of the participants are included in the results chapters. The following part explains the interview procedures.

6.3.1.2. Data collection: Semi structured interviews

Interviews can be used both in qualitative or quantitative research. In qualitative research, the purpose of the interview is to describe and to find out the meaning of central themes in the living world of the research participants (Kvale, 1996). In this research, the aim of the interviews was to gain patients and nurses' expectations on diabetes consultations together with their views on consultations they previously attended. The interviews were also arranged to give the participants an opportunity to express their experiences within their consultations. The interviews were in-depth and semi-structured and lasted not longer than 30 minutes (as mentioned in the invitation letters). According to Bowling and Ebrahim (2007, p.217), an in-depth interview is a simple structured encounter between researcher and research participant with the aim of eliciting information, whereas, a semi- structured interview involves the researcher using both '*open*' and '*closed*' questions and following the questions as planned in a flexible way. The stages of interviews as suggested by Kvale (1996) were used to organise the interviews: the initial stage and secondary stage were mainly dominated by the researcher asking questions to the interviewees and the end stage was conducted by giving contact details and offering an opportunity to the participants to ask any additional questions.

Interviewing as a tool in data collection has been previously used in diabetes research, either in the form of in-depth one to one interviews (Carlisle, et al., 2007; Early, et al., 2009; Fharm, et al., 2009), or in focus groups (Sarkad, et al., 2003). Therefore, the use of interviews in this research appears to be appropriate, perhaps due to its practical,

flexible and economic reasons (Bowling and Ebrahim, 2007, p.217). From a practical point of view, the majority of the interviews took less than 60 minutes and on average it took 30 minutes so that little inconvenience was caused. The timing was also kept flexible to allow the participants to select their own convenient time. All participants were voluntary.

Conducting interviews can be challenging. Laura and Le Floch (2004) revealed that some respondents may find it difficult to express their views to the interviewees, particularly when the questions are used to ask about standards, assessments or professional developments. Although their project was focusing on educational research, the findings of the dynamics of their interviews may be useful for any research using interviews. It is also important to avoid jargon (Boyd 2007) which can affect the validity of qualitative research due to inappropriate use of language. Unfortunately, Boyd did not clarify the definition of jargon which in general can include terminology or idiom of a particular group. Jargon can be useful when communicating complex ideas within members of a particular group such as nurses. In this PhD study, the use of jargon was avoided when interviewing the patients.

Interview schedules were prepared as an interview guide. Two separate interview schedules were designed; one for patients and the other for nurses and both of them consisted of open and ended questions. The objective of interviewing patients was to obtain their experiences in attending the consultations with the nurse (DSN) and to clarify their expectations. Similarly, the objective of interviewing the nurses was to gain their experiences in delivering diabetes consultation and identify their expectations from their patients. The design of the schedules follows the suggestions

from Kvale (1996) which included: opening, body, transition and closing (Appendices 5 and 6).

In order to maintain privacy and confidentiality, all the interviews were conducted in a consultation room at the Healthy Living Centre, with the exception of one patient who asked to be interviewed in his home.

6.3.1.3. Analysis of interview data

The data obtained from the interviews was transcribed verbatim for analysis. There are a number of techniques to analyse interview data and it depends on the nature and the aim of the interviews. In this exploratory research, thematic analysis was used, as the aim of the analysis was to seek the dominant themes which visualise the main content of the conversation (Howitt and Cramer, 2010, p.83). The reasons why thematic analysis was selected is because of its practicality. According to Howitt and Cramer (2010), this type of analysis is suitable for the early stage of qualitative research, as long as the researchers collect, transcribe and analyses the research data themselves. Thematic analysis can give flexibility as it is not associated with any theoretical rule such as grounded theory (Howitt and Cramer, 2010). NVivo software was used in the coding process and in early analysis to produce potential themes and sub themes. The potential themes or '*nodes*' in Nvivo, resulting from the analysis are presented in Chapter 7. The analysis was conducted by following the techniques as suggested by Braun and Clarke (2006) which consisted of the following steps:

1. Phase 1: Familiarising self with the data. In this phase it is necessary to immerse self with the data which involved transcription, repeated reading the data, taking notes and coding.

2. Phase 2: Generating initial codes. This phase involved allocating codes to the data.
3. Phase 3: Searching for themes. The coded data was then collated to produce potential themes and sub themes.
4. Phase 4: Reviewing themes. This stage involved the refinement of themes.
5. Phase 4: Defining and naming the themes which was started when a satisfactory map of data had been produced.
6. Phase 6: Report writing.

According to Braun and Clarke (2006), the above techniques are very practical, as shown in their psychology research projects. Similar to Howitt and Cramer (2010), these authors also mentioned that the techniques could offer some flexible ways to elicit qualitative data without any requirement to attach to any rules such as the grounded theory. Yet, they did not give a clear explanation of the difference between the grounded theory and thematic analysis.

Apart from interviewing the patients and the DSNs as explained above, the data was also obtained from observations of 7 nurse-patient consultations. The following section explains how the data from observations was collected and analysed.

6.3.1.4. Data collection: Observation of nurse-patient consultations

Participant observation has been widely used both in qualitative and quantitative research. According to Tedlock (2008) this type of data collection was created during the late 19th century and pioneered by Matilda Cox Stevenson, Alice Fletcher, Franz Boas, and Frank Hamilton Cushing. It was used by Ethnographers who were expected to live in a society for a period of 2 years. In its development, observation was not

only used by Ethnographers but also by other researchers including Phenomenologists (Naden, 2010), Grounded Theorists (Martin and Basto, 2011; Olsen and Harder, 2011; Licqurish and Seibold, 2011) and Action Researchers (Coco-Ripp, 2010; Spalding, 2009; Endacott, et al., 2011).

There are many ways for clinicians or researchers to observe or record consultations within the clinical setting, such as by using video or video tape recorders. In the medical field, observation of the consultation is primarily undertaken as part of General Practitioners training (Kurtz, Silverman and Draper, 1998) or research (Mercer and Howie, 2006). However, in nursing research, this type of observation has not been widely utilised. It was initially proposed to use a video tape recorder to observe the nurse-patient consultations. Unfortunately, the idea was not approved by the NHS Research Ethics Committee due to concerns related to maintaining confidentiality of the research participants and data analysis techniques. Following the meeting with the Committee, it was decided to use an audio tape recorder to capture the consultations, supplemented by field notes whenever appropriate so that unnecessary technical or ethical issues could be avoided.

One of the main ethical issues of observing consultation is consent. The Royal College of General Practitioners has published the Patient Consultation Observation Tool (COT) for GP training purposes. In their curriculum statements, three domains are required which include the understanding of the context of consultation, the structure and good professional attitudes (Royal College of General Practitioners, 2011, pp.8-9). The aspects indicated in the consent form published by the College were included in the research information sheets and consent forms designed for this PhD study. Prior to each consultation, the participants were made aware of the recording of their

consultations and their rights to agree or disagree with their participation. Further discussion of the ethical issues is given in the last section of this chapter.

Following consent, the conversations between the DSNs and the patients were audio recorded. Each patient consultation was allocated 30 minutes by the diabetes centre although in reality it took shorter or longer dependant on the patient's needs. In order to avoid intrusion, the researcher sat away from the consultation, in the corner of the consultation room. To ensure capture of the full conversation, two small tape recorders were used: Olympus digital voice recorder VN-2100PC and Sony ICD-B600. The roles of the researcher was clearly explained prior to the consent agreement which was to set up the recorders and to make notes of any information which could not be captured by the recorders, using field notes (Spencer, Coiera and Logan, 2004). The data obtained from recorded nurse-patient consultations were transcribed verbatim for analysis, with annotations from field notes as appropriate.

6.3.1.5. Analysis of observation data

The principles of thematic analysis (as previously explained) were used in the first phase of analysis, the focus of which was familiarising self with the transcribed data, to allocate codes and then to produce a list of common health issues being addressed in the consultations. The analysis was independent of the interviews and emergent themes in the form of common health issues were sought.

The second phase involved a further analysis in which conversation analysis (CA) was used. The technique was selected due to the inability of thematic analysis to capture the context and dynamic of the consultation as well as professional attitudes/behaviours of the nurses and responses from the patients during their

meetings. Some of the texts or themes were further transcribed by carefully listening to the audio records and included codings common to conversation analysis (Jefferson, 2005).

The following section explains about conversation analysis and how this was implemented within the research.

The simplest definition of CA is a study of talk (Hutchby and Wooffitt, 2010, p.11). It involves a systematic analysis of talk which can be observed in everyday situations of human interaction: talk- in – interaction. Silverman (2006, pp.210- 223) made a good summary on CA; a method which aims to describe the way people produce ‘*orderly social interaction*’. According to this author, this method first appeared in Garfinkel (1967) and was used in ethno methodology. Other founders who can be mentioned include Harvey Sacks and Irvine (Hutchby and Wooffitt, 2010, p.2).

In principle, CA consists of the following propositions: the talk-in-interaction is systematically organised and deeply ordered, the production is methodical, the analysis should be based on naturally occurring data and it should not be constrained by prior theoretical assumption. These propositions seem to be relevant to this PhD study, as the interactions between the patient and the nurse were observed as naturally as possible and there was no theoretical assumption, prediction or hypothesis prior to data collection (Hutchby and Wooffitt, 2010, p.20).

There are similarities between Discourse Analysis (DA) and CA as observed by many social scientists, as both methods give qualitative analysis of the function and properties of talk. Wooffitt (2010, pp.71- 91) gave some good explanations on their

similarities and differences. According to this author, CA focuses more on social action through language, whereas DA is concerned with investigation of the way that accounts and formulation display an action orientation. In a more simple way, CA looks at interaction and DA examines it from a wider language practice.

As mentioned earlier, within this study the data collection, transcription and analysis followed the standard convention for CA. The audio-tape recorded data were transcribed by using the distinctive coding style from Gail Jefferson (Atkinson and Heritage, 1984; Wooffitt 2010). Some selected Jefferson's symbols of CA are explained in the following table. Further details can be seen in Appendix 7.

[]	Square brackets mark the start and end of overlapping speech. They are aligned to mark the precise position of overlap as in the example below.
↑ ↓	Vertical arrows precede marked pitch movement, over and above normal rhythms of speech. They are used for notable changes in pitch beyond those represented by stops, commas and question marks.
<u>Underlining</u>	indicates emphasis; the extent of underlining within individual words locates emphasis and also indicates how heavy it is.
CAPITALS	mark speech that is hear ably louder than surrounding speech. This is beyond the increase in volume that comes as a by-product of emphasis.
(0.4)	Numbers in round brackets measure pauses in seconds (in this case, 4 tenths of a second). If they are not part of a particular speaker's talk they should be on a new line. If in doubt use a new line.
(.)	A micro pauses, hearable but too short to measure.
she wa::nted	Colons show degrees of elongation of the prior sound; the more colons, the more elongation
hhh	Aspiration (out-breaths); proportionally as for colons.

Table 14 Examples of Jefferson's standard punctuation marks which are used to mark intonation rather than syntax.

Two important features were included: '*turn-taking*' in communication between the two parties, the DSNs and the Patients, and '*speech delivery*' to identify any gaps,

pauses, breathiness and even laughter. The analysis was guided by Huchby and Wooffitt (2010) to emphasise presentation of conversational phenomenon and to look at the patterns or sequential organization of talk-in-interactions. Researchers such as Silverman (2006, p 212) have used the CA features as suggested by Sacks et al. (1974) which includes turn-taking and repair, conversational openings, adjacency pairs and how institutional talk builds up. How these features were used within this PhD study is explained below:

1. Turn-taking. According to Huchby and Wooffitt (2010), turn-taking in an ordinary conversation is not fixed. At the start of interaction, neither party knows in advance how many turns they will take, the order of topics they will address and how long each turn should take. There should be very few periods where more than one party is talking. The turn-taking can be in the forms of a single word, non-lexical utterances such as ‘huh?’, single phrases or clauses. The following extract from a conversation between one DSN and a patient (58 years old, type 2 diabetes) illustrates this.

[OH24M56S]

DSN 1:	Your <u>H↑BA1C</u> (0.5) which ‘s a <u>lō:ng↑</u> term blood test
Patient D:	Right↑ Yes↓
DSN 1:	It (0.5) <u>shows↑</u> what ‘s happening in the last three months (0.5)
Patient D:	Righ↑:: Yes↓.

2. Repair. It is a generic term used in CA to cover a wide range of phenomena from errors in turn taking to any forms of ‘*correction*’. The analysis of data in this PhD study revealed the use of ‘repair’ by the DSNs particularly when delivering health education (Hutchby and Wooffitt, 2010). See the following extract:

[0H35M10S]

DSN:	Do you think↑ <u>mid</u> di::e:: what sort of meal d’ you eat at mid die
------	--

Patient: Sandwich↑:: toast::

DSN: [Yaa]:h

Patient: Just something light (05) and get a cooked me:al at night(.) time

3. Conversational openings. The analysis of the way the DSNs and the patients start their interaction revealed the styles of a variety of conversation openings, which are mainly ‘*informal*’ and ‘friendly’. The following two examples were selected from two consultations:

[0H35M00S]

DSN: You know↑ we talked about that ta:blet you were o::n

Patient: [Y ea]::

DSN: It was not sa:fe (0.5) because you are over 65

[0H29M41S]

DSN: So:: are you okay↑ about today::?

Patient: ye:: about the injection↑?

DSN: Ya:: ya

4. Adjacency pairs. Sacks (1992) considered ‘*adjacency pairs*’ as one of the most noticeable element of CA which needed to be analysed. In any two way conversation, certain classes of utterances normally come in pairs. This can be in the forms of questions and answers, greetings and return-greetings or invitations and acceptances/ declinations. These types of conversation were observed from the DSNs and patients consultations. The following is an example in the form of questions and answers:

[0H29M41S]

DSN: Dd:: Dd:: D’ ye know much about Byetta?

Patient: Nothing::

DSN: Nothing↑ at all↓?

In his summary, Silverman (2006) explained how turn-taking and repair needed to be analysed in conjunction with the suggestions from Sacks, et al. (1974), that in the

analysis some aspects need to be carefully examined, such as how a speaker makes a turn relate to a previous turn, what turn has been accomplished and how the turn links to a succeeding turn. It is also important to identify how conversation is started and by whom (conversational openings) and how the conversation is developed within an institutional talk.

6.3.2. Interim Phase

Creswell and Plano Clark (2011) suggested that in the sequential design, there should be an interim phase to give an opportunity for the researcher to develop the required instruments and to measure the validity of the mixed methods. The interim phase should be allocated in the period between QUAL and QUAN.

The findings obtained from analysing the interviews and observations during the QUAL phase suggested some areas which needed further exploration and confirmation. A pilot study was conducted to test the modified Consultation Quality Index/ CQI-2 (Mercer and Howie, 2006). Before piloting, CQI-2 questionnaires were revised as they are constructed for GPs, for the purpose of the research the word '*doctor*' was changed to '*nurse*'. In addition, a few questions/ statements as indicated by QUAL findings were added. A copy of the questionnaire is included in the appendices (Appendix 8). The pilot involved 10 patients. However, only 4 of them completed and returned the questionnaires. Therefore, it was not statistically tested. Two researchers checked the returned questionnaires. Firstly, by checking whether all the questions (Likert scale) and the open ended questions were answered by the participants, and secondly by looking at the answers, particularly to the open ended questions, determining whether the participant's written statements were needed. All

the Liker scale items were rated by the participants and the open ended questions were answered as expected. It was decided that only one question needed to be altered.

It appears that the questions were understood by the patients; therefore no major alterations were made.

6.3.3. Phase 2: Quantitative (QUAN)

This phase was conducted to follow the first stage; QUAL. The main aim was to explore or to measure the findings obtained from the qualitative phase in a wider participants. In addition to this, the phase enabled statistical evaluation of any correlation between relevant variables. In this section, the development of the questionnaires, selection of research participants and collection of data are discussed. In the analysis process and whenever relevant, correlations between attributes were measured in accordance with the views of Bowling and Ebrahim (2007 p.190), that quantitative research should enable the measurement of quantities and relationships between attributes.

6.3.3.1. Selection and recruitment of the research participants

Following the results from the pilot study of a modified CQI-2, recruitment of 150 adult patients was started. These respondents were purposively selected from the local appointment booking list. This was conducted with the help of an Administrator and the number was decided following personal email correspondences with previous researchers: Mercer and Howie (2006). They suggested that for each practitioner, at least 20- 25 questionnaires should be completed by the patients attending their consultations to enable comparison among practitioners. However, it was not the intention of this PhD study to compare the patients' experience of their consultations with different DSNs. The number of the respondents was also discussed with the

Diabetes Team Leader who agreed with the figure, on the basis that there were two DSNs who regularly saw the patients at the centre twice a week and the majority of the patients were ordinarily seen by the DSNs at the Patients' GP surgeries. Therefore, 150 seemed ideal and would be achievable.

Details of the selected respondents were kept confidentially by allocating each with a certain code, so that no real names or other details left the Healthy Living Centre. The questionnaires, together with other documents such as the participant information sheets, were sent to the respondents. Unfortunately despite issuing a second reminder, only 45 completed questionnaires were returned (a return of 45/150 or 30 %).

6.3.3.2. Data collection

Questionnaires have been used widely in many different types of research. In general questionnaires imply a set of questions which could be formulated as being open ended, closed or could be presented as scales or tests (Oppenheim, 2006 p.100).

Within this research, permission to use Consultation Quality Index/ CQI-2 to measure the holistic interpersonal care of people living with diabetes was obtained from the authors (Mercer and Howie, 2006). The questionnaires had been previously used by those authors in a study involving 3044 consultations delivered in 26 different GP surgeries throughout the West of Scotland. The questionnaire consists of some general questions about the language routinely used by the patient at home, the language being used in the consultation and how well the patient knows their doctor referred to enablement. There are a further two set of questions to measure empathy (ten statements) and outcome (six statements). In each form, the doctor needs to indicate the length of the consultation. The empathy statements use a Likert scale in which the

participants can rate their experiences from '*poor*' to '*excellent*'. Similarly, the outcome statements also use the scale from '*same*' or '*less*' to '*much better*'.

Mercer and Howie (2006) used the questionnaire to measure patients' experiences with GP consultations in terms of empathy, enablement, and continuity and consultation length. The main reason for using the tool in this study was because of its validity and reliability which had been tested by previous researchers (Turner et al., 2009; Price et al., 2008; Al-Ozairi, 2008; Evans, et al., 2007). In this PhD project, the validity of the tool was measured by calculating the Cronbach's α (alpha). Details of the measurement are explained later in this chapter. The other reasons as stated by Oppenheim (2006) are related to keeping the low cost of the data collection and analysis, avoiding any Interviewer's bias and the attempt to reach participants who live in a wider area, covered by the local PCT.

In addition to changing the word '*doctor*' to '*nurse*' in the questionnaire, general information about the participant was also expanded following piloting by including some questions to get the following information: Gender, age, ethnic origin, education, marital status, type of diabetes the participant lived with, the duration of living with diabetes and treatment. In addition to these, other aspects which needed expansion from the QUAL phase were also incorporated, including a question on how the consultation was arranged and how they rate the information given by the receptionist. Some open questions were also added to find out the patients' expectations and the health issues they would like to discuss in any forthcoming consultation (Appendix 8).

6.3.3.4. Data analysis

Following a reminder which was sent to the respondents, there were 45 completed questionnaires returned. The questionnaires were checked for accuracy and completeness. All questions were answered/ completed in 40 questionnaires and deemed to be suitable for statistical analysis using SPSS software, as all the questions were answered. The techniques suggested by Matchin, Campbell and Walters (2007) were followed.

The first part of data analysis involved a descriptive analysis of the participants' demographic data and calculation of the frequencies of all the categorical variables. In the second step, the relevant variables including empathy, enablement/partnership, information giving and outcomes were analysed individually. Each statement or question was measured to find out the mean or average, the reference interval, standard deviation and variance (Matchin, Campbell and Walters, 2007). This analysis was followed by measuring the correlation of selected variables. As the statements consisted of non-ordered categories and each cell has sufficient numbers of data points, Pearson's correlation coefficient was used to analyse the CQ1-2 scores. Where the data was not normally distributed, Spearman's rho was used instead. Prior to this analysis, the scatter plots of raw data were observed to determine whether a correlation was likely. The data were also analysed for evidence of significant demographic and response associations using cross- tabulation (Chi-Square) analysis. Finally, EViews 8 (IHS Global Inc., 2013) was used in the last analysis to find out which consultation variables were the most influential.

6.3.4. Phase 3: Interpretation

The aim of this last stage was to answer the mixed methods question which is '*how the quantitative results build on, expand or confirm the qualitative results in relation to consultation experiences as perceived by the patients and the nurses*'. Creswell and Plano Clark (2011, p.166) recommended areas which could be clarified by this stage.

In order to answer the mixed methods questions, the following aspects were addressed: in what ways would the quantitative findings confirm, expand or generalise the qualitative results? Were the views and the experiences of the selected participants (adults' patients with diabetes) similar to or different from the wider sample? Were there any similarities between the views of the selected nurses with the views of many patients?

There are many ways to connect the findings obtained from the quantitative and qualitative phases such as by integrating the qualitative findings (themes) and the statistical reports obtained from quantitative (categories) (Sandelowski, 2000). Other mixed methods researchers such as Tashakkori and Teddlie (1998), Onwuegbuzie and Teddlie (2003), Creswell and Plano Clark (2007) and Creswell (2009) have also suggested ways the findings can be integrated.

Creswell and Plano Clark (2011, pp. 234- 235) recommended strategies for connecting data and interpreting the results. In this process, it is vital to examine the results carefully in order to identify participants who are representative of the groups or who demonstrate different (extreme) attributes. In this PhD project, these similarities of differences were examined and the results from qualitative and quantitative phases were compared.

In the integration, the similarities and differences were proposed to be examined by the use of a matrix (Dubois and Loiselle, 2009). This method is normally used by pairing the findings from QUAL and QUAN which needs to be presented in columns and rows. However, due to the rich data obtained from QUAL and QUAN with many themes and variables, it was impossible to use a single matrix. Therefore, a diagram or flow chart was used instead. For example, it was found that the consultation styles as indicated by QUAL, such as being *'friendly'* and *'being there'*; were similar to the QUAN element of empathy *'the nurse shows interest'*. One of the advantages of using these techniques is to allow the researcher to draw inferences across categories.

Creswell and Plano Clark (2011) recommended researchers to present inferences after each phase and to report the meta-inferences at the end of the report (in the conclusion or discussion). Other researchers have suggested different ways, such as by producing content analysis at the end of the integration (Miles and Huberman, 1994). In this stage any convergence, discrepancies or correspondence between qualitative and quantitative results can be examined and whenever relevant, pertinent literature and professional experience was used to clarify the final findings. The recommendations from these authors needs to be examined carefully so that the most applicable ways can be selected and implemented at the end of this PhD project.

6.4. Rigor and validity of the study

Apart from its increased popularity, the use of mixed methods was widely criticised in the 1990's, particularly by constructivists or interpretivists, who conceptually rejected the idea of positivism in social science research. Other researchers still favour more traditional ways in conducting research projects either by following the rules of quantitative or qualitative paradigms alone. Within social science its researchers such as Lincoln and Guba (1985) and Schwarndt (1989) believed that qualitative and

quantitative approaches are incompatible, despite the wider use of mixed methods.

Creswell and Plano Clark (2011, p.p. 13-15) highlighted the challenges of using mixed methods such as the skills possessed by the researcher, the availability of time and the resources and the ability to convince others. In addition to these, they list eleven key controversies and questions being raised in mixed methods (2011, p.37). One of them is related to the discourse of mixed methods; who controls the discourse and are the methods nearing a '*meta narrative?*' Therefore, it is important to be confident of the quality of the data.

In all types of research, including mixed methods, it is essential to assure quality.

Issues surrounding research quality have been discussed widely by many quantitative and qualitative scholars by using a generic term '*validity*' for more than a quarter century (Rolfe, 2006) yet, no single consensus has been agreed. In contrast, validity in mixed methods is an area which is still in its development. Creswell (2012) defined validity in mixed methods as employing strategies that address potential issues in data collection, data analysis, and the interpretation that might compromise the merging or connecting of the quantitative and qualitative strands of the study and the conclusions drawn from the combination. He suggested the principles of maintaining the validity of both quantitative and qualitative strands in mixed methods. He also recommended using the term '*validity*' due to the acceptance of this term by both quantitative and qualitative researchers, although, it has been well known that many qualitative researchers would argue against any measure of the quality of qualitative research by using quantitative strands. For example, Sandelowski (1993) argued that the validity of qualitative research should not be measured based on its '*truth*' or '*values*' as in quantitative research, but from it being '*trustworthy*' which makes it more visible and understandable by '*leaving a decision trail*', which allows the readers to track the

research process in order to find out its quality. Previously, Lincoln and Guba (1985) clarified the meaning of '*trustworthy*' by indicating four components: credibility (analogues to validity in quantitative research), dependability (reliability in quantitative research), and transferability (external validity in quantitative) and conformability (presentation).

As argued by Dubois and Loiselle (2009), it is important to address potential validity issues from participants' recruitment, selection tools and data analysis. Murphy (2007) and Wilkins and Woodgate (2008) also highlighted that the design of mixed methods needed to be carefully structured, and with experience the researchers should be able to combine the approach more effectively (Patton, 1990); Reichardt and Cook (1979). The quality or validity of this PhD study was ensured by maintaining the elements of trustworthiness or validity as highlighted above. Creswell and Plano Clark (2011, pp. 240-241) stated that the measures of validity and reliability of mixed methods are currently under development. They suggested three areas which needs to be carefully monitored throughout the research process: data collection, data analysis and interpretation. The following sections explain how these three areas were maintained throughout the research process

6.4.1. Data collection

The research participants in this study were recruited from 2 samples: DSNs and Patients. Purposive sampling method was deemed to be appropriate to meet the research needs. All seven nurses were employed as DSNs with experience in delivering diabetes consultations to adult patients. The patients recruited for the QUAL phase were carefully selected by considering factors such as age, gender and types of diabetes. In the QUAN phase, the sampling criteria were followed to recruit

the patients. These patients were adult, living with type 1 or type 2 diabetes, they did not suffer from any severe mental health problems and they had been seen by the DSNs within the last three months.

The data collection tools, that is, the interview schedules, the tape recorders and the Consultation Quality Index- 2 (CQI-2) (Mercer and Howie, 2006) were carefully prepared. The interview schedules were piloted before the tools were used to guide the interviews with the patients and DSNs. The audio recorders were tested by the researcher a few times to make sure that they were sensitive and able to capture human voices. The questionnaires (CQI-2) had been previously used and validated in previous studies (Mercer and Howie, 2006) but in addition to this, a pilot was conducted prior to distributing questionnaires to the 150 patient respondents in this PhD study. In the pilot, the questionnaires were sent to 10 patients who were selected randomly. Unfortunately, only 4 completed questionnaires were returned, but all questions were answered by the respondents and only minor amendments were made.

The internal consistency or reliability of this study was psychometrically tested by measuring the Cronbach's (α). The first test measured the 10 items used to measure empathy. The Cronbach's α was 0.971 and the Chronbach α -based on standardized items was 0.973 (an α of at least 0.7 is normally considered adequate). The Anova with Cochran test shows $p = 0.134$ (NS). The second psychometric test looked at the 6 items used to measure the consultation outcome. The Cronbach's α was 0.949 and the Chronbach α -based on standardized items was 0.950. The Anova with Cochran test shows $p = 0.667$ (NS).

The above results show the reliability or internal consistency of the study, as in practice any Chronbach's alpha test higher or equal to 0.9 is considered to be excellent.

6.4.2. Data analysis

There are many strategies to check the qualitative data within a mixed methods study. Creswell and Plano Clark (2011) suggested that researchers should use member-checking which they considered as the most common way. The transcriptions of the data in this PhD research were checked by two people including the researcher and a professional proof reader. The interview transcriptions were returned to the DSNs individually for comment. They were asked if the texts were accurate concerning the recording of their experiences. Some minor amendments were made following their feedback. The majority of the patients did not wish to check the transcriptions with the exception of one patient who was interviewed in his home; he did not make any amendments. Another way to check the validity of qualitative data involves '*intercoder agreement in qualitative research*' (Miles and Huberman, 1994). In this activity, several people need to be involved in order to assign codes and to develop themes. Within this PhD project, the coding and themes were checked by the research supervisors. In addition to these, an oral presentation was delivered to the DSNs to disseminate and to check the preliminary findings. The DSNs agreed with the findings and expressed their interest in having the final results.

The data obtained from consultation observations were examined using conversation analysis. A short course in conversation analysis was attended to familiarise the researcher with the analytical process. Further assistance was obtained from other researchers familiar with this type of analysis.

The quantitative data was analysed statistically. The internal consistency or reliability was measured by calculating the Cronbach's α (alpha). The overall inter-reliability of questions was 0,781, whereas the outcomes score was 0.949. In general, the α Cronbach values of 0.7 to 0.8 are considered as satisfactory, although in clinical research the expectation of the values are higher (Machin, Campbell and Walters, 2007, p.209).

6.4.3. Interpretation

In exploratory design, Creswell and Plano Clark (2011) indicated the importance of this last stage. The researcher should be able to evaluate how the quantitative findings build or expand upon the qualitative results. In this interpretation stage, judgements need to be made whether the combined results answer the qualitative, quantitative and mixed methods questions.

Within this PhD project, the interpretation was closely monitored by the researcher and the research supervisors. In order to get feedback from a wider research community, the preliminary findings were also presented at different conferences, including one mixed methods conference.

6.5. Potential ethical issues and protection of the research participants

Research has provided evidence in delivering good health care practice; therefore the Government is committed to supporting research within the UK Health Care System. However, as highlighted by the DH (2005), research can create risks not only for the safety and wellbeing of the research participants, but also in terms of return of investment.

Research in health care spans from non-clinical to clinical trials and from non-experimental to the experimental studies. It is not surprising that the dimensions of ethics in health care research is broad and can be complex. In agreement with Bower and de Gasparis (1978), Anita and Richer (2005) indicated the core of research ethics in healthcare included biological, medical, social science fields and the ethical codes guiding professional practice. Most of the ethical principles which link with human subjects emerged from biomedical research, whereas human rights dilemmas tend to derive from the social sciences. It was not the intention of this PhD study to conduct a clinical trial, therefore the ethical challenges would have been more related to rights of the research participants, such as how to protect their confidentiality and privacy.

As this research was conducted at a centre belonging to the NHS, an ethical application was made to an NHS Research Ethics Committee. The ethical approval was granted by the Committee on 12th April 2010 (Ref: 10/H0308/6), subject to minor revision. The permission to conduct the study was finally given on 2nd June 2010 (Ref: L001032).

This research was not free from ethical issues due to the fact that it was conducted in a community health care setting and it involved patients and DSNs. Other issues could be related to the types of data collection used within this research: interviews, observation and questionnaires. Throughout this PhD research project, the key elements of research ethics as highlighted by the Research Governance Framework (Department of Health, 2005. p.13) were strictly followed. These elements included respecting participants' dignity, rights, safety and well-being; valuing the diversity; maintaining personal and scientific integrity; showing leadership; honesty;

accountability; openness and offering clear and supportive management. The following part, clarifies how these potential ethical issues were minimised.

Research conducted in an institution within the community could challenge both the researchers and staff, due to a risk in different understanding on how the research is regulated (Cartwright and Hickman, 2007). In order to minimise it, prior to the study and recruitment of the research participants, a few meetings were conducted by the researcher with the Diabetes Team Leader to discuss the process of the research including recruitment. The communication with the Team Leader was maintained throughout the research process either by one to one meetings, telephone conversations or emails.

The risk for facing ethical issues could be higher in a research involving people from certain groups such as children or vulnerable adults. Within this research, apart from involving DSNs who by profession need to follow the professional code of conduct (NMC, 2008), it also recruited adult patients with diabetes. According to Diabetes UK (2010), people from deprived areas or certain ethnic groups show high risks of diabetes and suffering from complications. It could be expected that some of the research participants might be from these categories. It is not surprising that a greater emphasis has been put into certain areas in order to protect the safety and wellbeing of the research participants such as vulnerable participants (Juritzen, at al., 2011) and people with mental health problems (Allbutt and Masters, 2011) or people with learning intellectual disability (Boxall and Ralph, 2011).

As indicated early on, purposive sampling was used to select potential patient research participants with the help of the DSNs and the NHS Administrator so that the risk of any issues resulting from unethical recruitment could be prevented.

This research utilised a range of data collection techniques including interviews, observation and the use of questionnaires. The specific ethical principles to guide each of these data collection activities were applied. The main ethical issues of interviewing patients and DSNs relate to how to maintain confidentiality and anonymity. In order to protect the patients' and nurses' identity, all data obtained from them were allocated codes individually and stored in a locked filing cabinet and only the researcher could gain access to their names and codes. The participants were also reminded that they could opt out from their participation at any time. In case of any emotional discomfort which could have resulted from their participations, a qualified counsellor was available and the contact details were clearly indicated in the participant information sheets.

In addition to the above risks, the presence of the researcher in observing and recording the patient and nurse consultations could create intrusion and alter the nature of consultation. In order to minimise this, both the nurses and patients were informed clearly of the aim of the research and their consent was obtained prior to the observation. A clear ground rule was highlighted and Pendleton's Rules and the Royal College of General Practitioner ethical guidelines regarding the recording of consultations for assessment were followed whenever relevant.

The maintenance of the participants 'confidentiality' was also continued in the data collection and analysis of the questionnaires. In the selection process, the 150 patients

who had attended a consultation with the DSNs were carefully selected. Each patient was allocated a code and the original information of the patients (names and addresses) was kept at the diabetes centre. This protected the identification of the patients.

No ethical problems were reported by the research participants or the staff from the NHS Trust during the conduct of the study. It is evident that the ethical principles in the NHS research governance and NHS constitution (DH, 2009) particularly in relation to protecting patients' confidentiality were followed and continuously implemented throughout the research process.

6.6. Summary

To conclude, this chapter has reviewed and examined the methods used in the study. The philosophical aspects of positivism and constructivism have been analysed by exploring their history and philosophical arguments. The reasons to use mixed methods have been clearly indicated. The methods used in the study have also been critically explained.

The sequential exploratory mixed methods design appears to be the best selection to guide this study which is aiming to investigate the patients' and nurses' experiences with their diabetes consultations. The rigor of mixed methods and the quality of the research have been carefully examined and controlled. A great attention has also been given to assure the maintenance of ethical principles throughout the research process.

Chapter 7 FINDINGS FROM THE QUALITATIVE (QUAL) INVESTIGATION

The results from the qualitative data are presented in three different sections, to show the themes obtained from interviews with the seven patients, the seven DSNs and the findings from conversation analysis of the data collected from observations to seven nurse-patient consultations. As discussed in the methodology chapter, the interview data from the patients and the nurses was examined using thematic analysis, whereas the data obtained from nurse-patient consultations were analysed using conversation analysis. In the initial analysis, QSR NVivo 9 was used to allocate codes and to cluster the data obtained from interviews into themes. The analysis process is discussed in the following section.

7.1. Themes from interviews with the patients

Seven adult patients were purposively and conveniently recruited via different recruitment techniques (See the Methodology Chapter). Details of the participants' backgrounds are given below:

Patient	Age	Gender	Type of diabetes
Patient 1	26	Female	Type 1
Patient 2	52	Female	Type 2
Patient 3	58	Male	Type 2
Patient 4	65	Female	Type 2
Patient 5	62	Female	Type 2
Patient 6	24	Female	Type 1
Patient 7	65	Male	Type 2

Table 14 Details of patients involved in the interviews

The patients' age range from 24 to 65 years old (mean age = 50 years), there are two males and five females and they lived either with type 1 or type 2 diabetes. The

intention was to recruit males and females equally, however at the time of recruitment, this proportion was not available. In addition to these patients who agreed to participate, two family members were also willing to be included in the interviews.

The duration of interviews was between 15 to 30 minutes.

The thematic analysis started as soon as all the interviews data was transcribed verbatim. In the initial stage, it was crucial to familiarise with the data as suggested by Braun and Clarke (2006). This involved examining similar characteristics and then allocating a code (number) to each character. For example, statements such as '*I hate*', '*embarrassed*', was given a code to highlight the patient's dislike of living with diabetes. Other sentences such as '*I'd like them to get me down*'; '*I expect her....*' were given a different code to show the patient's expectation towards the nurses. Other phrases such as '*the weight management clinic*', '*the doctor*', '*the consultant*' and '*the dietician*' were checked against the patients' statements and the same code was then allocated to reflect the patients' experience with other health care team members.

The NVivo helped in identifying the references based on the number of codes allocated to each patient. Although the same interview schedule was used to guide the interview process, the numbers of references made by each patient were different. This indicated that certain patients could easily share their experiences, whereas others could not give much information. The following figure shows the number of references made by the patients.

Name	Nodes	References
Patient 1	11	26
Patient 2	14	29
Patient 3	13	29
Patient 4	10	15
Patient 5	5	7
Patient 6	9	23
Patient 7	9	17

Table 15 References and nodes from the interviews with the patients (Clustered by Nvivo software).

Following the coding process, the analysis stages as suggested by Braun and Clarke (2006) were followed. This included identifying potential themes and sub-themes, reviewing the themes, defining and naming the themes and report writing.

As indicated in Diagram 7, the five themes are '*I don't like living with diabetes*'; '*Daily problems*'; '*Coping with my diabetes*'; '*How the nurses approach me*' and '*My expectations toward the DSNs*'. Within these themes, there are sub-themes which reflect more details of the patients' experience in attending consultations. In addition to these, the analysis also revealed the experience from broader perspectives showing how the patients lived and managed diabetes which influenced the aims or focus of their consultations. Combining all of the themes together, their experience can be presented within the negative and positive continuum as indicated on the top of the chart. The following examples explain each theme, using actual direct quotes obtained from the individual participants concerned.

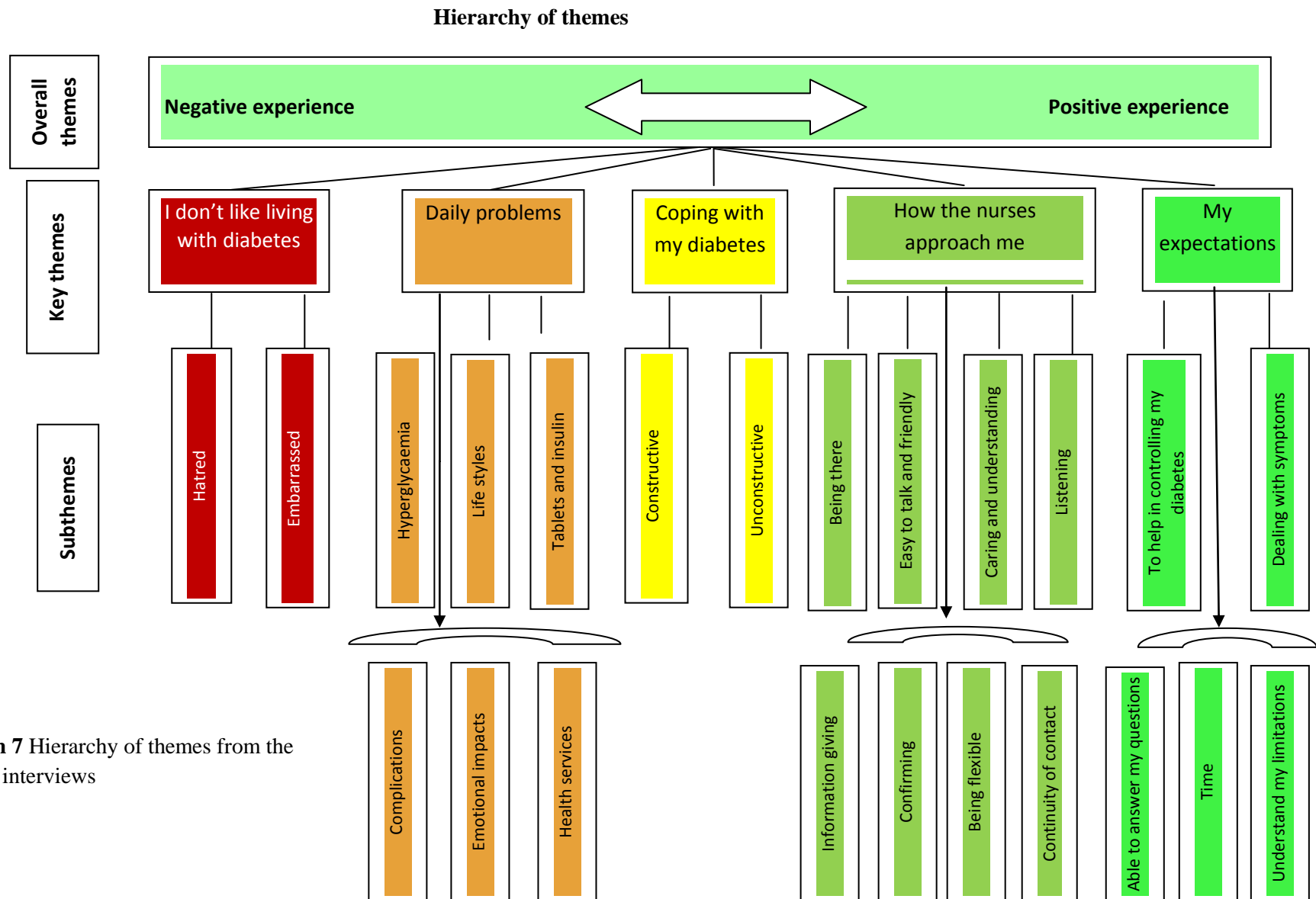


Diagram 7 Hierarchy of themes from the patients interviews

7.1.1. Theme: I don't like living with diabetes

Although the majority of the participants had been living with diabetes for many years, some of them still felt that this was not an easy option. They expressed their dislike of living with diabetes as shown by the comments below:

“I hate being a diabetic actually, I am absolutely fed up. The reason why I was first diagnosed was because I suffer from Rheumatoid Arthritis. They knew that I still suffered from the Rheumatoid and believe that it was one of the factors that led me to become diabetic. Initially I was embarrassed; I hoped that I would have been able to control it myself” (Patient 2).

The statement above shows how the patient responded to the diagnosis. At the interview, the female patient had been living with diabetes for nearly two years and had not yet accepted the situation. It appeared that she was still in the process of denial. Similar comments were also made by other patients who said that ‘it is not nice’ living with diabetes. These patients’ expressions suggested that there is the need to identify the patient’s cognitive and emotional responses in consultation when arranged for those who are newly diagnosed, or for those who have a problem in adjusting to their condition.

Some participants were not aware of their diabetes prior to diagnosis. This could be related to the misunderstanding of signs and symptoms and uncertainty about the heredity connection. In the quotation below, a 26 year old patient with Type 1 diabetes explained her unfamiliarity with diabetes signs and symptoms.

“I had been drinking a lot of water for over a year, and just could not quench my thirst, but it was actually a blood test for something else that I had at the doctor’s that picked up the diabetes!” (Patient 1).

The words *'for over a year'* suggest that this patient could have been living with the condition longer than this period. This fact was certainly linked to her unawareness of diabetes, a situation which unfortunately still happens to anyone, particularly to those people who are at high risk of this disease.

7.1.2. Theme: Daily problems

The interviews gained common issues on care management and life style adjustments, that the participants wished to discuss with the DSNs. The data also showed that the participants had a wide range of difficulties they would like to address. The problems were faced, not only by the newly diagnosed patients, but also by those who had been living with diabetes for many years. Under this theme, there are sub-themes which show the complexity of managing diabetes on a day to day basis.

7.1.2.1. Hyperglycaemia

Hyperglycaemia seems to be a common issue for the majority of participants. They realised the need to understand the signs and symptoms of high blood glucose levels.

"It just feels like everything is getting on top of me...so when my blood glucose is wrong then I just don't feel right, you know?" (Patient 3).

In the above quotation, Patient 3 used the words *'I don't feel right'*. This patient may have noticed prior to diagnosis that her body had changed when she had hyperglycaemia. However, the changes were various amongst the other patients. It is therefore crucial to discuss any alterations to the condition during consultation.

The participants also recognised the necessity to understand the normal and abnormal ranges of their blood glucose levels, to check them regularly as discussed with the DSNs, to adjust their doses and to consider their eating pattern. These aspects are mentioned in the following quotations:

“So if you can look at the tests I have been doing. This was before last week...and after that it has gone down a bit...” (Patient 3).

“I think actually my main concern is not being able to control my glucose level to a reasonable level, and to eat in such a way that I don’t have to overstep the mark. I am now actually cutting down the amount of insulin ... erm ... in order to control this but obviously now I am paying more attention to what I eat” (Patient 7).

In the interview, Patient 3 showed the Researcher his blood glucose record diary which helped him to understand its pattern and how he managed to decrease his blood glucose level. Similarly, Patient 7 realised that with his lower blood glucose levels, he did not need to take as much insulin as he used to. He was also aware that by carefully controlling what he had eaten helped him in maintaining his blood glucose levels. Both patients realised the need to attend their consultation with the DSNs.

7.1.2.2. Life styles issues

Living with diabetes demanded the participants to modify their lifestyles. Discussing this aspect could take the majority of their consultation time as they wanted to clearly discuss this matter fully with the DSNs. Common issues which were highlighted by the participants were diet, exercise, driving, employment and how to

lose weight for those who were obese. The following quotations show how two participants were worried about diabetes as it had affected their jobs.

“So because of the driving that I do, I wasn’t happy with that and I was also getting weight gain. So I told the nurse that I wasn’t quite happy with that and what could be done about it as I was still trying to do a good healthy diet but not getting anywhere, so they took me off that and then, as I said, they put me on Byetta. Another thing with driving quite a lot with my job I cannot be having hypos and I cannot be vomiting in the car all the time.” (Patient 2).

“Well I just want to get fitter so I can get back to work. I want to get this sorted out so I can get my driving license back so I can get back on the road driving. I have not been driving for two years and it is very frustrating” (Patient 5).

In the above explanation, the link between diabetes and driving is indicated and the patients realised that having their blood glucose well controlled was crucial so that they could continue with their jobs. Apart from driving, adjusting diet seemed to be a big problem for other patients, as they needed to know not only how to select their food but also the quantity of glucose or calories contained in the food. The difficulties in managing the diet are expressed by another patient in the following phrase:

“Well it’s very difficult as the temptation to eat is there. I eat really just twice a day and very little in between. I don’t snack ... but perhaps that’s not quite true because occasionally you know, you feel a bit peckish so if dinner is going to be delayed and I really feel that I need to have something in between, then I wouldn’t hesitate to take something like an apple or a banana or a packet of hoola-hoop, whatever is available for me to eat in between. So then I know that my glucose level is not going

to drop drastically to a point that I would be useless for the next two to three hours”
(Patient 7).

The description given by Patient7 contains the ways she suppressed the temptation on food and reduced the frequency of her eating habits, however in order to prevent hyperglycaemia, she realised that snacking was necessary. Knowing the amount of food, and when to eat, seemed to be one essential aspect of the patients’ life. This aspect is further explored from the data obtained from the observation in the nurse-patient consultations.

Another life style issue which was obtained from the interviews was that of exercise. Although not all the patients mentioned about their exercises, this aspect was included in the analysis due to the difficulties experienced by some patients in following the recommendation. They were aware of the benefits of exercise and some of them looked at this as part of their leisure activity, such as having a walk with their dogs.

“But I do exercise a lot, and have got a dog so take him out...and have been out this morning taking him around the park...and I take him out at night times just for a quick walk around the block” (Patient 6).

Unfortunately, taking exercise even in the form of leisure was not always possible. Another patient who was overweight was as frustrated as he could not do it and combined with his heart problems, he did not know what exercise was safe for him. Within the local services, the patients could join exercise programmes funded by the city council. However, in discussing the services with the patients, not all of them were aware that these were available.

7.1.2.3. Taking tablets or insulin

Taking tablets to control blood glucose levels could be challenging for some participants as they needed to work with the DSNs or GPs closely. Their blood glucose levels required to be checked regularly and they also needed to report to their GPs or DSNs if they had any unwanted side effects. The following quotations were selected from a patient who could not tolerate the oral antihyperglycaemic agent: metformin, so the team decided to change the medication to different types of tablets.

“Initially I was on a controlled diet, and the HbA1c was a good thing and my blood glucose control was poor. So they introduced Metformin to be taken 4 times a day, but I could not tolerate that as it was making me quite poorly. Then about 6 months ago, because my HbA1c went up to 7.1, they decided I was outside the control criteria, so then they took me off my current medication and put me on a tablet and all the stuff and that was fine but then my blood glucose control was poor ranging from 9.1 to beyond 20. Again I was feeling all the complications, I was very tired, very thirsty, going to the toilet a lot, so I stopped taking St Johns Wort” (Patient 2).

Patient 2 realised that there were so many types of tablets available, unfortunately she could not tolerate too many of them including metformin. Consequently, it took a few months for her and the team to find out the correct medication her body could accept. This issue made her ‘*very frustrated*’. This incident suggested the patient’s emotional involvement in the process concerning selection of diabetes tablets. The patient also mentioned ‘*St Johns- Wort*’ which indicates the use of an herbal complementary therapy to reduce her depression. Unfortunately, as the interview was conducted in the patient’s office, it was impossible to reconfirm her experience with her DSN. This should be carefully noted, as not all the patients had the same

negative experiences. In contrast, another patient was so pleased with the outcome, as she had lost eleven pounds since she started taking metformin.

Similarly, patients who were on insulin also reported difficulties in understanding the side effects of insulin and how to adjust the dose. For example, some of them identified changes in their appetite and were also feeling tired (as explained by Patient 1 in the following transcription). Whereas others realised the need to change the dosage after contacting the DSN.

“Well I was trying to cut down, and was constantly hungry, and am not sure if it was with too much insulin or boredom. I would just eat, eat, and eat. Well I was just over five foot and weight just over thirteen stone and was getting bigger and bigger” (Patient 1).

The above statement indicates the patient’s uncertainty of the effects of insulin. Fortunately, following her consultation with the DSN she was able to adjust the ratio of the insulin dose and noticed a reduction in her appetite. Another participant clarified a similar experience of adjusting her insulin and she knew when to contact the DSN:

“I have altered my dosage sometimes as I was feeling really tired at half past eleven in the mornings so I rang up Rita and she said to reduce my insulin by 2, so I was on 12 and 12. Then I went 8 and 12 and then I went 6 and 12 and then I was feeling a lot better, but then it has gradually got a lot worse again” (Patient 3).

The issues on taking tablets or insulin expressed by these patients suggest the requirements needed to prepare them prior to starting the medications. The possible

unpleasant side effects should also be clearly explained in their consultation, so that they are fully aware and better prepared.

7.1.2.4. Managing complications and other health conditions

The fear of developing complications was expressed by the majority of the participants. It ranged from hypoglycaemia and diabetic ketoacidosis to diabetic retinopathy. The understanding of physiology appears to be inconsistent among the participants, as indicated by the following quotations:

“Hypo’s I have had a lot, but I have never feared them. People fear hypos and they think they are going to pass out, but I have read stories where the liver has produced glucose which will kick in, and you will come back round. It’s just the fear of diabetic ketoacidosis that I am worried about the most. I just thought that the complications you get with diabetes like the eyes? I thought they did not happen till a lot later in life, like seventy years old” (Patient 1).

The statement made by the above patient is so worrying. She said that she had hypoglycaemia so often but she did not consider it to be a serious matter. She also thought that her body would produce the required amount of glucose in order for her to ‘come back round’ following a hypoglycaemic episode. Her knowledge of diabetes was certainly insufficient which could impair her ability to self-manage her diabetes. Another participant explained a different health problem she had been living with for some time and because of this, was not sure whether they needed to report it to their GPs or DSNs.

“Mmmm ... I get pains in my joints. It is everywhere. I am not on medication for this pain at the moment but I have spoken with my GP” (Patient 4).

This patient thought that her pain was related to diabetes, but it was actually caused by her arthritis. However, living with another chronic condition in addition to her diabetes had put her in a difficult situation.

7.1.2.5. Emotional impacts

Some patients lost contact with the DSNs and did not attend their appointments. This might be related to some emotional problems they had which sometimes were not being fully investigated. One young participant highlighted this situation and gave some reasons why she did not attend her consultations.

“I stopped coming to my appointments for a long time. I don’t know if I went into some sort of denial, but I just didn’t want to deal with it. I was never really bothered with the injections or anything like that. I don’t know if it was some sort of rebellion. I mean the reason I didn’t come for so long was that I never doubted the DSN’s, it was just down to me being ignorant, and nobody pressurised me to come back which was good, it was my decision” (Patient 1).

This patient tried to analyse the reasons why she decided not to attend her appointments to see the nurses, which could be caused by her ‘rebellion’ or ‘ignorance’. In the current health care system, it is up to the patient to decide whether they want to attend their appointments or not. This patient found this soft approach ‘was good’, without morally thinking about how much time and cost was lost by the NHS due to her missed appointments.

Other patients indicated that their mood could change when their diabetes was uncontrolled. This change of mood not only affected them, but also the people they lived with. Below is an example of this given by the wife of a male patient.

“Well he gets not violent nasty its more verbal nasty and his expressions and all of that as he is such a nice natured person really. Well through all the years of marriage we haven’t fallen out and we don’t argue, but I can tell when it’s going wrong because his mood starts to change...” (Patient 3).

The interviews highlighted the fact that diabetes influenced the patients’ emotional status in a variety of ways such as rebellion, ignorance, low motivation, frustration and relationship. These situations certainly needed to be assessed thoroughly in the consultation. Patient 1 in the interview mentioned one of her reasons for returning back to see her DSNs was in order to be more motivated with her diabetes. Further research might be able to explore the relationship between motivation, the attendance of appointments with health care professionals and self-management.

7.1.2.6 .Problems with other health care services

This sub-theme explains the engagement of other health care team members in diabetes management. Interestingly, in comparison to the positive comments the participants made on the contributions of the DSNs to their care comments made on other health care professionals seemed to be negative. The participants commented that these experiences were concerned with their contacts with a variety of health care professionals including GPs, consultants, dieticians, weight management clinics, NHS direct, care technicians and receptionists.

One patient mentioned that she was given a long waiting appointment to see a dietician as explained in her comments below:

“I was going to see a dietician when I saw her yesterday. So I rang up the dietician this morning, and I cannot see them until 18th October...that’s nearly 5 weeks...so I thought they would have sorted it out a bit quicker than that...” (Patient 3).

Waiting lists appeared to be a problem in this patient’s GP surgery. This patient felt waiting 5 weeks was too long, but there was no indication made on how quickly she thought the process should take to be seen by a health care professional in her non-urgent appointment. The waiting problem may continue even when the patient had an appointment date and attended her consultation (not necessary with the DSNs) as explained below:

“With the Doctors they give you an appointment and you go there and because they are so busy, you can sit there for ages. And they don’t tell you how long you have to wait” (Patient 6).

This waiting issue was also experienced by another patient (Patient 7) who could wait anything from up to half an hour in one day. He considered the time he was waiting to be seen compared to the time he spent with the health doctor was unequal because as soon as he went in, he was quickly dealt with. Unfortunately, there is no formula to calculate the maximal tolerable time the patients should be prepared to travel and wait for a 15 to 30 minutes consultation. These unpleasant experiences also related to the way receptionists at GP surgeries assisted the participants in arranging their appointments.

“The reception there is not very friendly, and if you miss an appointment then you have to re-book in the morning. Then the receptionist asks what is wrong with you, but I am not telling them as they are just the receptionists. Some of them are alright, but some of them can get a bit awkward with you” (Patient 6).

Although the comments did not refer directly to the attitude of the receptionists at the diabetes centre, potentially it could reflect on the services given by other receptionists including those working at the diabetes centre.

Inappropriate attitudes from the health care professionals were raised by other patients. In the next examples, the patients explained their experience with the weight management clinic, the consultant and the receptionist. The personal comments below highlighted the experience of one patient with the weight management clinic.

“When I go to the Weight Management Clinic they are looking at you as an obese person rather than an individual” (Patient 2).

Stigmatisation seems still to have existed within this weight management clinic.

Patient 2 used the words ‘*they look at you as...*’ which indicates a problem related to eye contact, facial expression or tone of voice from the staff or the way they were welcomed or talked to as patients. The word ‘*individual*’ could imply that the patient would rather be dealt with on a one to one educational basis, or that more time should have been allocated for her.

Another patient described the experience of meeting a consultant who, in the opinion of the patient, acted more like a ‘*God like figure*’ rather than an approachable human being. From the following quotation, it appears that the unequal partnership still exists within the current health care systems.

“When you have gone to the consultants and raised an issue, they look at you as if to say ‘how do you know that?’ ...and this consultant grew about six inches and said ‘how do you know about that...are you a nurse?’ You know, it’s like it was something that I shouldn’t know and I was some form of an idiot. I think that when

you go to those places the consultants think they are God...which they are not! They are there being paid to do a job” (Patient 3).

A consideration needs to be taken when examining the above statements, as not all participants reported a similar incident. The statement below consists of some positive remarks on the attitudes of the doctor or the nurses:

“The doctor is quite good as well; both of them explain things clearly. Anytime I need either the doctor or the nurse, I can book an appointment to see them” (Patient 4).

In the interview, Patient 2 also explained about an issue concerning the diabetes knowledge of the health care professional (General Practice). In her conversation below, she described her experience as ‘*quiet funny*’:

“In fact that is quite funny, as I had to go to see the GP quite recently as I had (?) So obviously they gave me some drugs and of course the first question was would it interact with my medication, especially my diabetes? Well she said that my DSN could deal with all that as she is the one with the expert knowledge” (Patient 2).

This remark has raised an issue as to what diabetes medications the GP should be made aware of and their capability of explaining this to the patient and which one should only be explained by the diabetes team including the DSN. Another question which needed to be answered is whether it was sufficient to say to the patient that ‘*the DSN could deal with all that*’. In this case, there were some positive attitudes from the GP, such as being ‘*honest*’ and the ‘*expertise acknowledgement*’ given to the DSN.

Other participants complained about the inconsistency of care at GP surgeries, due to the fact that they were being seen by a different number of health care professionals:

“Well at my old surgery I see one doctor and one diabetic nurse. Since I have been over to this surgery in Greenwood, I have seen that one...that one...that one...every other doctor. One doctor gave me some tablets; another took them away and gave me some... (?)”(Patient 5).

“Yes every three to four months I saw Sister A at first...then I saw Sister B about three weeks ago...”(Patient 6).

The patients did not find a similar issue within the diabetes care team as they were usually seen by the same DSNs. Further explanations on this experience are given in the theme: how the nurses approach me.

Contacting health care professionals could be problematic too, particularly in the out of hours or holiday scenario. The following description gives an example how a patient had an unpleasant experience when contacting the NHS Direct.

“NHS Direct was a waste of time. So it was New Year’s Eve and my Mum was dying and I was in such a panic as I had to get to Chesham the next day to see my Mum...And it was reading 28 (this refers to the patient’s blood glucose level) on the machine which didn’t help...and I thought that he was going to go into a coma so I would have to do something so I phoned NHS Direct. So I explained my problem to them...and the gormless, stupid questions they asked...but you don’t want to be listening to all that...’is he breathing, is he conscious...is he this...is he that...’ All I wanted to know was, could we increase his medication...that was all I wanted to know. And then they said there was nobody there to help me, after all that. All they told me to do, as it was New Year’s Eve/Day was to phone your GP in 4 days’

time...they were an absolute waste of time. So it was very frustrating as we couldn't ring the GP and the machine was telling you to seek medical help" (Patient 3).

The negative remarks made by the patient: '*waste of time ... stupid questions ...nobody there to help*' shows how frustrated he was when trying to get help urgently, but the response was not straightforward.

The unpleasant experiences as explained by different patients above are all related to similar factors including waiting time, lack of information and communication styles. Further observation is needed, perhaps by comparing these issues with different patients and care practices.

7.1.3. Theme: Coping with my diabetes

Although there was no specific question used to ask the patients about the way to cope the problems they had, some of them explained it in the interviews. The information gave useful clues whether they handled it constructively or non-constructively. For example, one patient said that she often felt so isolated and no one else was around. It took her a few months before she found more constructive ways of dealing with the signs and symptoms of diabetes and was tolerating the prescribed medications. Another patient had the same experience, in which she needed nearly six months before everything was manageable. One way to face diabetes more positively could be by talking to other patients. See the following quotation.

"Well maybe they should have an open forum, which would be very good. That would mean meeting with other diabetic patients. It tends to be that you go for your appointment and you see them, and you see the other patients waiting in the clinic

just sitting there. It might be an idea for people to get together and chat as half the time you feel that you are isolated and by yourself” (Patient 2).

Unfortunately, within the UK health care system, there are still some inequalities and the services available often depend on where the patients live. The above patient lived in a small town where there was no patients’ forum.

Other patients indicated that the way they knew about their condition was by learning from a family member who also lived with diabetes or by learning from experience.

“I mean, I’ve lived with diabetes for a long, long time as my mother was a diabetic. So as I am still caring for my Mum, things happen to me that I recognise through my Mum, and I used to ask questions when we were at the hospital” (Patient 3).

“And my experience told me it was never necessary for me at the time. But now ... erm ... things have changed, and quite recently, sort of over the last year ... erm ... perhaps not quite a year ... would say last six months ... the symptoms have changed and I no longer feel that” (Patient 7).

The above quotations show how the patients handled their problems constructively. Support from other patients or family members was indicated by the patients as being useful, therefore these elements should be made available for all if possible. In addition to these findings, making a contact with the nurses or attending the regular reviews were also perceived to be ways the patients needed to act on when they felt there was a problem.

Sadly, not all patients adopted a positive approach to the handling of their diabetes. The following transcriptions give a clear indication of how a young female patient ignored the communication made by her GP.

“I wasn’t even seeing my GP about the diabetes. I just sort of cut it out of my life. I did not know why? I was still getting repeat prescriptions, and was getting letters in the post saying like please come for an annual review, but I was just chucking them away” (Patient 1).

As stated previously, the patient’s reasons for not seeing the GP or attending the diabetes annual review was unclear. It could be related to her low motivation or unawareness of her condition. This patient managed to attend the diabetes structured education; however, it was also not clear how much she had learnt and if the education was of benefit.

“It was at that stage when I just didn’t seem to care and I thought I was doing a good thing by going to the course, but I was only sitting and listening and wasn’t putting things into action” (Patient 1).

The statement made by this patient shows the need to look at the teaching techniques or strategies and to follow up the patients’ knowledge after they attended the diabetes structured education.

7.1.4. Theme: How the nurses approach me

This theme consists of sub-themes which explain the experiences of the participants in attending their one to one consultation with the DSNs. The sub-themes are listed under the following headings; ‘*being there*’, ‘*easy to talk and being friendly*’, ‘*caring and understanding*’, ‘*put me at ease*’, ‘*listening*’, ‘*information giving*’, ‘*confirming*’, ‘*being flexible*’ and ‘*continuity of contact*’. The results are encouraging, as overall the experiences were more positive than negative.

7 .1.4.1. Being there

The majority of participants indicated that the DSNs were always available for them if they needed any help, particularly if this referred to telephone enquiries. Some of the patients had known their DSNs for many years and this helped them to work with each other better.

“My DSN was there when I was first diagnosed, so we are going back thirteen years now. She is definitely approachable. If I need to speak to Sandra well the number is there and she will always get back to me. Last week after my eye I called her to let her know how I got on and to make an appointment and it went to her answering machine but within five minutes she had rang me back” (Patient 1).

Consultation via telephone seemed to be commonly used in addition to one to one consultation or in addition to clarification of information. The following quotations indicate the use of the telephone, which has helped the DSNs to ‘*be there*’ when needed by their patients and to respond to as soon as possible.

“I do. Especially when I was having difficulties with not being able to tolerate the drugs, and I would ring her and she would offer some advice and perhaps adjust the dosage over the telephone” (Patient 2).

“It’s nice to know there is someone at the end of the phone for you to call. So I normally leave a message if she is not free as she usually only does the diabetes clinic two days a week. So if I leave a message for her she will get back to me. I know that I should only go back every six months, but she has asked me to ring her whenever I want and she is ringing me back outside the normal time to see if the drugs have worked” (Patient 2).

The phrase '*being there*' does not only refer to the availability of assistance for the patients, but also to make sure that someone is always available at the end of the phone (for example), when the DSNs are not always physically there. It also denotes the prompt reply that is given.

The fact that there is always a DSN available has enhanced the patients' ability to get access to the diabetes service. Another participant compared the differences in attempting to contact the consultant:

"Yes and when you go to see the consultant you cannot ring them up tomorrow and say ' Oh look I need some advice..' but you can ring up the nurses here" (Patient 3).

The availability of the DSNs to be contacted and to give advice was considered to be helpful and necessary for the patients. Compared to the patients contact with the consultants, this type of service has reduced the barrier of communication between the patients and the nurses, particularly when both of the parties were physically not in one place. Of all the participants, only one person expressed a different experience in contacting or seeing the DSNs.

"I don't always see the diabetic nurse, but I used to. But for a number of years now, I haven't really seen the diabetic nurse it's more likely have been a technician ... erm ... and all they tend to do is to take my waist measurement and take my blood pressure and that's it really. The problem as I see it every time I go there ... I never see the diabetic nurses ... you know I see the chiropodist and I see the technician going about their job, and I see the receptionist ... but I don't see any dietician or diabetic nurses in the department" (Patient 7).

The reasons why he did not see the DSNs were unclear; perhaps this was because of his condition which had been under control over the last few years. The interview

did not get any information on how the diabetes care technicians introduced themselves to the patient, or whether they said clearly that their main task was to assess the patient as part of their annual review, but this did not include delivering health education.

7.1.4.2. Easy to talk to, friendly and relaxed

The participants stressed the approach being used by the DSNs. They used similar phrases such as ‘friendly’, ‘relaxed’ and ‘less formal’. Below are some patient statements made during the interviews.

“I always liked her as she is really great to talk to” (Patient 1).

“Oh we got on, it was fine.....They are really friendly and very nice. I think it’s much more relaxed to see the diabetes specialist nurses here” (Patient 6).

Although the comments from these patients were brief, they consisted of some communication characteristics which had helped them in establishing their relationship as indicated by the words ‘*I always liked her*’ and ‘*we got on*’. Apart from being friendly, creating a relaxed atmosphere for a one to one consultation seemed to be the way to establish the type and style of consultation which was acceptable to the patient.

7.1.4.3. Caring and understanding

This sub-theme explains elements which could influence the partnership between DSNs and the patient. They used phrases such as ‘caring’, ‘helpful’ and ‘understanding’ which can be seen in the transcriptions below:

“She doesn’t tell me off, she puts things in a way of caring and understanding, which is why I prefer to see Sandra other than anybody else. You know when you were at school and you were called into the Headmaster’s office and you feel like

you had done something bad, and I had done something bad, as I hadn't been to see them for about four years and my HbA1c was through the roof, and I was sat there thinking that I was going to be told off now. That's the feeling I sometimes get, but with Sandra she is very fair" (Patient 1).

The phrase "*she doesn't tell me off*" suggested an approach that Patient 1 liked from her DSN. Under the theme: 'the emotional impacts' (see 7.1.2.5) her statements are used to show her rebellion or denial. This patient did not contact the diabetes team and her GP for a long while, even though she did not like to be blamed. The comforting approach from her DSN influenced her preference to be seen by this DSN but not by '*anybody else*'.

Another patient explained her experience on how the DSN had understood her attitude:

"She also knows that there are times when I am a little naughty and so even though it is a good relationship that we have, she knows that she has a job to do, so she does tell me but in a way that doesn't be little me at all, which is what I like about the situation" (Patient 2).

This explanation shows how the DSN responded to Patient 2 in a way which did not put Patient 2 in an inconvenient position. The phrase '*she does tell me but in a way...*' suggests that the DSN used a technique to show her understanding. Similar comments were made by other patients and these patients felt that their relationship with the DSNs was very good.

7.1.4.4. Listening

The participants felt that they worked well with their DSNs, because the DSNs gave attention to what was being said by the patient. The ability to listen seems to support this type of partnership.

“I know that the diabetic nurse and myself have quite a good discussion as she listens to what I say and she is very good at supporting me and listen to what I say so I am very pleased with her. But she also listens to my side and I feel that we work well together. The dialog is good between us. She listens to me, and I take note of what she has to say” (Patient 2).

In this statement, there is a sequence of events: ‘She listens, gives support and I am so pleased’. This sequence gives a clear causative effect of the ability of the DSN to listen and the patient’s positive experience. Listening also helps in maintaining the relationship between the patient and the DSN. The patient used the words ‘we work well together’ which shows that there is an equal partnership between them.

7.1.4.5. Information giving

The participants who attended the consultations came with many different issues or questions. They felt that the DSNs were able to give them the information that was required. The next transcription gives an example how one patient evaluated the information given by his DSN.

“What we wanted to know really is what is going to happen next...and they then explain things really, really well” (Patient 3).

Patient 3 came to see the DSN to discuss his uncontrolled blood glucose levels with the possibility of adjusting or altering his medications. Therefore, he really wanted to know what plans or actions would be taken. His consultation lasted longer than 30 minutes and the DSN explained in depth the changes to his insulin regime (the

content of the discussion is analysed using Conversation analysis and explained under the sub-heading: analysis of consultations). The evaluation made by the patient which was included in his comments '*explain things really, really well*' confirms that he received and understood the message from the DSN.

Information giving could involve sharing technical knowledge, such as how to understand the pattern of recorded blood glucose levels or how to calculate carbohydrate. Leaflets or booklets were available for the patients to take home and one patient commented on this:

"I have talked to R about it...but she has given me a book with all the food and what it means" (Patient 3).

At the end of her consultation, Patient 3 was given a booklet on carbohydrate and glycaemic index (GI). Although the DSN tried her best to explain about this dietary management, it was impossible to go through all the different types listed in the booklet. It was a common practice for the DSNs to give extra reading materials or information for the patients to read and looking at the comments from Patient 3, this technique needs to be continued.

7.1.4.6. Confirming

Giving confirmation on the situation was considered to be useful, particularly in a situation where the participants were not sure about their condition, target or clinical outcome. Some direct quotations are listed below to show how confirmation from the DSNs enabled the patients to understand their condition or treatment.

"Just recently when I have been and it was obvious that I was feeling really, really down she was trying to chat to me to find out if it was just work related stress, or if I was truly becoming depressed because of the diabetes" (Patient 2).

“So the nurse was trying to say, explain to me that this was the level I should keep to” (Patient 4).

“They take my blood pressure and I have to ask them to remind me of the last blood pressure ... the last waist measurement etc.... so I make my own comparisons as to whether I have put on excess weight, or my waist measurement has increased/decreased or if my blood pressure has increased/decreased, so I can see a pattern, if you like, from that. Apparently, both him and his registrar ... erm ... think my results are the best ones in the clinic.” (Patient 7).

In the sentences from these three patients, there is a common issue surrounding the uncertainties of their health conditions. Patient 1 realised the change in her mood, however she would like confirmation whether her lower mood was related to her job or diabetes. Similarly, Patients 4 and 7 were unsure about the acceptable levels of their blood pressures and they wanted confirmation from their DSNs. A confirmation could be in the form of something unexpected or expected. In the case of Patient7, the confirmation was a positive one and he was pleased with the result. Confirmation seemed always something these patients wanted to have, whether it was to be either negative or positive.

7.1.4.7. Being flexible

A place for negotiation and choices seemed to be beneficial. The participants felt that they were allowed to discuss the availability of times when they would like to visit the DSNs and which clinic they would prefer to attend. The statements from the following participants show how the word ‘*flexibility*’ was implemented.

“I ask for appointments after 3.30pm when I finish work so I don’t have to take time off, and they give me them. So they have been flexible and very good.” (Patient 2).

“I do not speak English but my daughter translates the information to me and I am happy with it.” (Patient 4).

Patients 2 felt that the flexibility had allowed them to select or negotiate the date and time of her appointment, whereas Patient 4 looked at being flexible as referring to whom she could ask to attend the appointment with, due to the language problem. Other patients considered flexibility from broader perspectives, examples of which are included in the quotations from Patients 2 and 7 below:

“We are flexible as to where we go, because we have got the transport so that’s easy for you, but it’s all based round what time they can see you. I wouldn’t ask for anymore from them.” (Patient 2).

“They don’t send me there ... I go there ... my choice basically. Because the GP’s sometimes don’t have time to do anything else, but since I have been going there to the hospital, I have been diagnosed with a number of other related problems” (Patient 7).

Examining these quotations, flexibility seems to be covering a wide range of options including the time to select the appointment, with whom the patient would like to attend the consultation with and also where to attend their appointment. Flexibility had given the patients choices on the consultations they would like to attend.

7.1.4.8. Continuity of contacts

Being seen by the same DSN is considered to be useful by the participants. This helped them to know each other better and to save their consultation time, particularly for the nurses, as they were already aware of the patients' history prior to the consultation.

“So from that day I went to have my Blood Tolerance Test and then had an appointment with my diabetic nurse who I don't want to name, but I do see the same nurse each time I go to the surgery, and she is so good” (Patient 2).

“It is good we see the same nurse all the time and has seen her for several months now” (Patient 4).

“I would have preferred dealing with one doctor and one diabetic nurse. If you see more than one doctor they can spend ten minutes just reading up on the notes, so I much prefer to have one doctor and one nurse so they know what is going on” (Patient 5).

Compared to a comment made by a patient who was seen by different doctors and nurses from her GP surgery, these patients who were seen by the same health care professionals reported a more positive attitude, as far as they could manage, concerning the ability of both patient and DSN in working together.

7.1.5. Theme: My expectations toward the nurses

The expectations towards the DSNs highlighted the importance of the DSNs being knowledgeable and experienced and being able to manage the consultations efficiently. The participants indicated that the DSNs should assist them in controlling

their condition, answering their questions and providing sufficient time for consultations. Below are further quotes which show the participants' expectations relating to the DSNs assistance in controlling their conditions.

“Well...I'd like them to get me down to 6 to 8 you know it should be. It is getting there, but today she has altered my dosage to get it down there, because it is definitely going down but I need a bit more to get it down even further” (Patient.5).

“But it was important for the diabetic nurse to go through that process in order that she knows that she had told me and explained to me the nitty-gritty of what's involved, and obviously I had to allow her to do her job” (Patient 7).

In the diabetes centre where this research was conducted, the majority of the DSNs had many years of experience working in diabetes care, apart from one DSN who had only one year's experience working within the team. During the interviews, there was no concern raised by the patients to question the nurses' knowledge. Three patients indicated their satisfactions with the information and services from the DSNs; they were *'happy'* with what they were told, everything they wanted to know was explained and this information helped them to plan what they could do, for example, with regards to the correct method to take their insulin.

The participants were also aware that the DSNs *'could not always answer all their questions'*, as indicated by phrases such as *'being honest'* in the following quote made by a patient who also worked as a nurse.

“Because she has got the knowledge, I expect her to come up with answers to my questions. And maybe being a professional, I don't profess to know everything about diabetes, as it is not my subject. However, I want her to answer my questions

honestly” (Patient 2).

This expression from Patient 2 highlighted that nurses must be fully aware of the patients’ condition and should evaluate their knowledge and answer questions from the patients, based on what they exactly know.

Although the majority of the participants were pleased with the given information, there were comments which showed their dislikes of being seen by diabetes care technicians.

“Erm ... I think I would have preferred to have seen a diabetic nurse rather than a technician ... erm ...because the technician doesn’t really do anything apart from taking blood pressure ... I would have preferred to see the diabetic nurse. But I believe all their jobs have gone now; they have all been replaced by technicians” (Patient 7).

Within the local diabetes care, the diabetes care technician jobs were created in 2002/3 to perform non-educational part of the diabetes annual review. However, the statement from Patient 7 suggests the need to measure the care technician’s roles from the patients’ perspectives and evaluate their performance, particularly in the way they interact and introduce themselves to the patients.

The time allocated to the consultations seemed sufficient, as the majority of the participants felt that these had allowed them to discuss fully the concerns of their conditions or treatment.

“I have always thought that the time is fine and that we have always covered the things we need to cover, and if I have needed to stay longer with my nurse, I have been able to. So I have never had a problem with time issues” (Patient 1).

In certain cases, the consultations could last shorter or longer which depended on the issues which needed to be discussed and the patients' characteristics. Below is a quotation from an interview with a patient who could not speak English. In the interview, her daughter acted as her translator. She indicated that a shorter consultation was sufficient for her.

"We spend about ten to fifteen minutes which I think is enough" (Patient 4 who cannot speak English).

In contrast, another patient said that her consultations could run longer due to the nature of the consultation.

"And it's actually the chatty nature of the clinics which often makes the appointment overrun, which often makes me feel quite guilty for the patient after me" (Patient 2, knowledgeable).

Other participants compared the time allocated by the DSNs and the doctors and they realised that doctors' time was usually limited. It should be noted that, in each appointment with the DSNs, each patient was allocated 30 minutes. In contrast, the time allocated for patients to see the medical staff was usually shorter.

7.1.6. Summary

In summing up, the interviews with the patients have revealed their views of living with diabetes and their experience with their consultations with the DSNs. There were some negative perceptions towards diabetes as shown by their dislike in living with this condition. Daily issues had been part of their life; this could be linked with difficulties with maintaining their blood sugar levels and treatment. The availability of support such as from family, friends and health services was deemed to be crucial.

Unfortunately, the attitude of other health care professionals (not the DSNs) was inappropriate at times, which could be linked with stigmatisation, the speed to response to their requests or communication techniques.

In contrary to this, the analysis also showed positive experiences in the way the DSNs approached the patients. Some characteristics of what could be considered as a good consultation (from patients' perspectives) were identified. These characteristics have highlighted personal attributes the nurses should have for establishing a good partnership with the patients. They expected the nurses to help with managing their diabetes and overall, they felt that their expectations were met.

7.2. Themes from interviews with the DSNs

Seven DSNs were purposively selected and interviewed. The duration of interviews was between 20 to 60 minutes; on average each took 30 minutes. In the site where this research was conducted, there were eight DSNs; one of them only worked with children, therefore she was not included in the research. The seven nurses were all female, with years of service ranged from 1 to 18 years. The following table gives information about their backgrounds.

Diabetes Specialist Nurses	Gender	Length of Service as DSN
Nurse Trina	Female	6 years
Nurse Gina	Female	18 years
Nurse Ella	Female	7 years
Nurse Ima	Female	10 years
Nurse Bora	Female	14 months
Nurse Dephna	Female	12 years
Nurse Tiara	Female	1 year

Table 16 The DSNs involved in the interviews (names are pseudonyms)

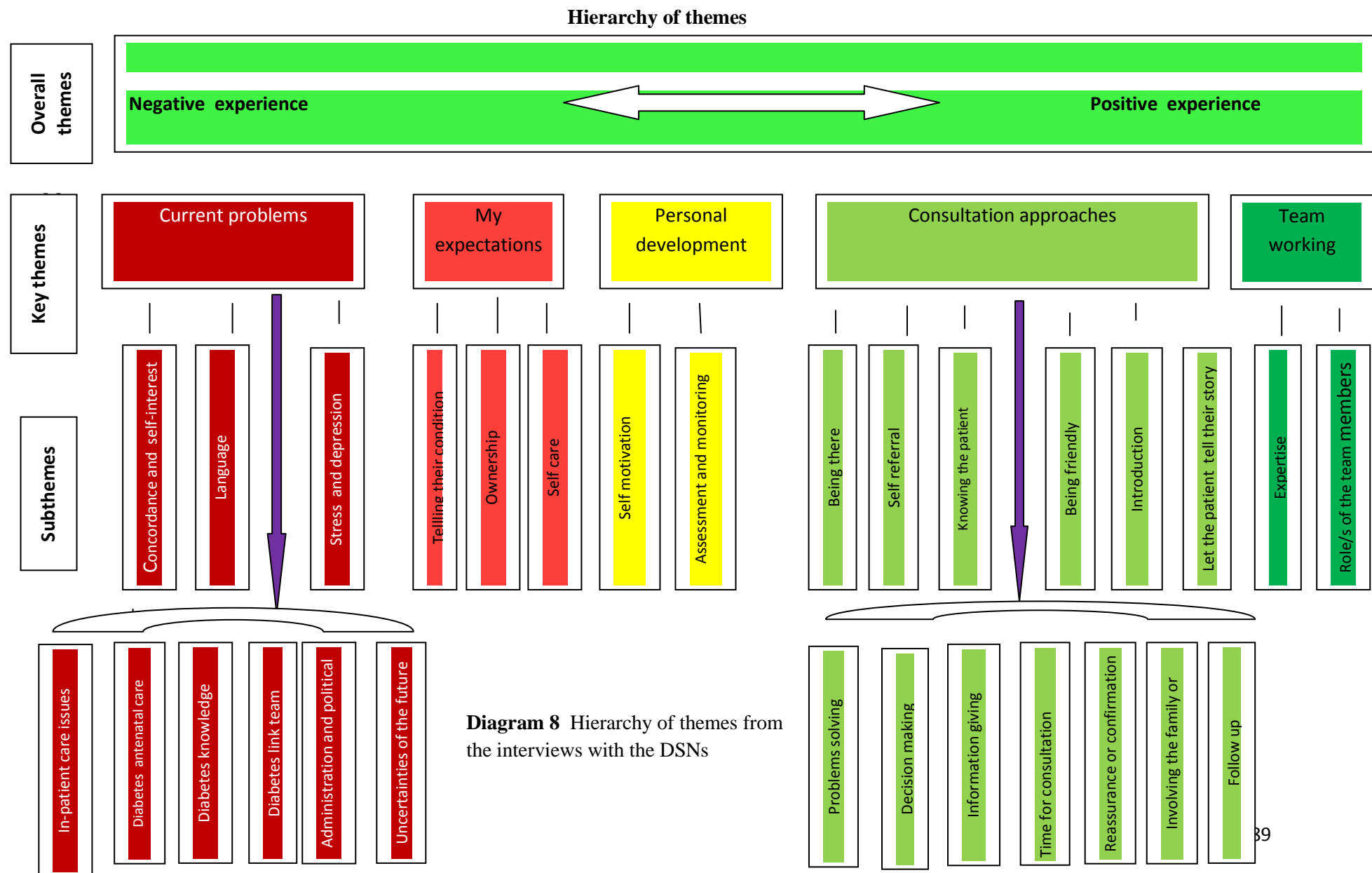
The analysis process was similar to the analysis of the interviews data from the patients. It was started with data transcription then thematically analysed using the framework from Braun and Clarke (2006). Similar characteristics were identified and each of them was allocated a code. The coding and grouping of similar references were helped by using the QSR NVivo 9 software. The following table explains the number of selected codes or references obtained from the nurses.

Name	Nodes	References
Nurse Bora	15	30
Nurse Dephna	12	21
Nurse Ella	13	23
Nurse Gina	22	53
Nurse Ima	17	37
Nurse Tiara	16	27

Table 17 References and nodes from the interviews with the DSNs (names are pseudonyms) (clustered by Nvivo software).

The table shows that the more experienced nurses, which mainly covered those DSNs who had worked there the longest, the more information they were able to give in their interviews. For example, Nurse Gina had 18 years of experience and she was able to provide more information about her experience compared to Nurses Dephna and Tiara who had only been working as DSNs for a few months.

Following coding allocations, the similar references were combined. This process produced five main themes: Current problems, my expectations towards the patients, consultation approaches, personal development and team working. As explained in Diagram 8, there are sub-themes under these five main themes which give more information about the DSNs' experience.



7.2.1. Theme: Current problems

7.2.1.1. Non-concordance and self-interest

Comments surrounding non-concordance were made by the DSNs. They often met patients who had numerous medications to take due to their diabetes and other chronic conditions. According to them, the main age groups who had compliance issues were elderly and young patients. As the majority of the elderly also lived with other health conditions some of the problems that surfaced are highlighted in the following quotation. One DSN declared that the ability of the patients to follow the health care advice as priority:

“I always try to put the compliance thing well up on the agenda, as it is well known that patients with diabetes are on lots of different medication/polypharmacies, insulin and this impacts on their day to day self-care. This is often quite difficult if you have an elderly couple” (Nurse Trina).

This DSN mentioned that although not all young people were neglectful in managing their condition, they found this group the most difficult to work with.

“With young people, I find it very difficult as sometimes they do not want to comply, and sometimes they speak to you and others there is no communication, and sometimes they delay their appointment and you might not see them till they are in a crisis” (Nurse Trina).

The information given by Nurse Trina gives a clue about the challenges she had in consulting elderly and young people. With senior citizens, they could have many different medications and conditions, some of which could be chronic, whereas with young people, the problems were mainly related to their attitudes. Regrettably, Nurse Trina did not elaborate the reasons why certain young people did not take their own responsibilities in managing their diabetes. Further exploration might be useful to

clarify this issue.

Patients' motivation and interest were observed by other DSNs as an element which could be linked with non-concordance. Occasionally, the DSNs had patients who did not really want to do anything to improve their condition or were not interested in managing diabetes.

“Actually, doing it that way is hard as the patient may not want to do the things that I know need to be done but you have to accept that and if they get confidence in you then they are more likely to come back and say ‘Well that’s sorted out I need to look at this now’” (Nurse Gina).

“Well some people do not come, as they are not interested in their diabetes, or like him he comes, but sometimes I wonder whether just the act of coming to the appointment he thinks that’s his contribution for looking after his diabetes, but when he leaves the clinic nothing changes” (Nurse Bora).

From the two transcriptions above, it is not clear why certain people failed to comply with the advice from certain DSNs. One DSN explained the danger of non-concordance as it might be contributing to an awareness of diabetic complications. In the quotation, Nurse Bora realised that ethically she needed to accept the situation and the patient's decision. This is an area which needs further investigation. Many factors could have contributed to the problems; one of them could be ‘denial’ as indicated in the previous theme (Theme 7.11 or Sub-theme 7.2.1.3).

The DSNs felt that elderly patients would benefit from some extra support, but for other groups there was no clear way in dealing with the situation, apart from giving

more options to the patients and guiding them in decision making. These techniques are mentioned in the following statement:

“If they don’t want to follow my advice it’s very hard. Some patients care has been so descriptive over the years that they really cannot make rational decisions, so I sort of make the decision for them but I do it as if they have made it and discuss it and I’ll give them options to say that would you like things like this/what about this?” (Nurse Gina).

In her explanation, Nurse Gina was aware of the requirements on sharing the information and letting the patient make a decision. However, in this situation, it was not easy for her due to the patient’s inability to make their own decisions. That was why she used a certain technique which actually involved her in initiating the decision, but then letting the patient feel that the decision was theirs.

7.2.1.2. Language

Patients from ethnic minority groups who have English as their second language and either cannot speak English or have limited spoken English were reported to have a barrier when coming to see the DSNs. There are a large population from the Eastern European countries in some surgeries and although fluent in their own language hardly any could speak English.

“I think a lot of it as well mostly from Eastern European countries and because I do the main surgery as well which covers the Eastern bloc, I have problems with communication” (Nurse Ella).

The barrier of language impacted in that, not only were their consultations tending to be shorter, but also more time was required for the DSNs to do follow up, mainly by telephone. However, there were other problems as many of the patients could not

understand telephone conversations, or the DSNs were struggling to understand their patients. Also, some of the patients did not answer the telephone.

“But I would see them within that week again and then keep telephone contacts going and see them as they need but some people struggle and go offline” (Nurse Ima).

“We also have a lot of patients from ethnic groups who can be very hard to understand on the telephone” (Nurse Trina).

Some initiatives were used to reduce the language barrier such as by using Interpreters/ Connectors. Unfortunately, the service from Interpreters had been stopped and they were no longer allowed to be involved. Another way was by involving their partners who may have a better command of the English language.

“We normally ask that a relative or husband (usually their partner) to ring in on their behalf, but you need them to speak with the person involved because often we ask questions on the telephone and if you haven’t got the partner there they cannot answer fully the question and that takes a lot of time” (Nurse Trina).

It was therefore useful to anticipate the language barrier by checking the patient’s name prior to consultation. Unfortunately, the information about ethnic background was not recorded on the system with the exception of pregnant women.

“We know that they have problems with the language from their names and also from the GP practice that it’s an ethnic group, or if a pregnant lady should be in their notes, but sometimes unfortunately we do not know that they cannot speak English and only find this out when we ring them” (Nurse Trina).

Examining the information surrounding this aspect, the city is becoming more cosmopolitan and not all people who came and lived in the area spoke English. Nevertheless, the problems with language seemed to be not yet resolved and would continue to become a barrier in communication either via the telephone or during a one to one consultation.

7.2.1.3. Stress and depression

Psychological issues seemed to be common and part of diabetes consultation. The majority of the DSNs described cases they had conducted for people with diabetes who also had emotional disturbances. In the next transcriptions, the DSNs explained the patients' emotional problems they encountered:

“Very often we get a patient who is stressed and quite upset that has been put through a lot of needless problems. For pregnant women they are coming in quite a stressed state because they are worried about their baby and I think there is quite a lot we have to cover, so probably that's the biggest issue” (Nurse Dephna).

“....and depression is quite a large part of this and when they are not feeling well they are likely to be a little bit rude and things, so its allowing them to talk and just express themselves” (Nurse Tiara).

Occasionally, patients came to the consultation with anger and denial, particularly from young people, as told by Nurse Ella and Trina in the following statements:

“Probably not on a daily basis, but you always get patients that can be difficult and angry as they don't want diabetes do they, especially young people. Together with diabetes and pressure of adolescence they can be very angry cannot they?” (Nurse Ella).

“Some don’t know how to manage it, or want to manage it and of course you have the denial as to why they don’t want the diabetes” (Nurse Trina).

The above quotations indicate different forms of emotional conditions including stress, anger, depression, worries and denial. Unfortunately, the DSNs did not give a clear figure or the prevalence, a part from using the words ‘very often’, ‘is quite a large part’ and ‘not on a daily basis’. Of all these psychological conditions, according to Nurse Tiara, relating to stress and depression seemed to be the most common problems the patients suffered from. Nurse Trina also confirmed this by saying that ‘the majority of the patients are depressed’. A further detail of these psychological aspects is discussed in the analysis of nurse-patient consultations section.

7.2.1.4. In-patient care issues

Two DSNs explained problems with hospital care for people with diabetes. The quotations from the two DSNs in this section show issues surrounding audit and management of hypoglycaemia, and also the way the staff were prioritising diabetes care:

“There were issues of diabetes care in the hospital. We do fill incident forms in, we know the ward doesn’t fill the number of forms in they should do, which is difficult to monitor. But they just don’t recognise that if someone hypo after 3 days that is a very clinical incident. You know, having seen hypo myself, I wouldn’t want to see a person 3 days in a hypo and yet nothing is done....it’s the same problem we have had over the past 10 years which is still not solved. It’s a huge problem” (Nurse Gina).

There are three concerns which are raised in the above statement. The Staff knowledge of understanding or detecting hypoglycaemia seems insufficient; secondly the documentation of hypoglycaemia is also inadequate. The third concern is related to clinical management or the care standard of hypoglycaemia which has not been met for more than a decade. Some local initiatives had been in place when this interview was conducted, however as this issue was concerning the hospital care, further information such as the hypoglycaemia audit within the local hospital was not obtained.

Another in-patient problem was explained by a different DSN who felt that the diabetes care in hospital was often considered as a second priority as the majority of patients were admitted to the hospital with another condition.

“Well you know in the hospital environment it is different because diabetes is not the main focus for the patient, you know for the management for that patient, because the diabetes is a secondary reason for their admission. So that’s not always recognised and it depends on what area you are asked to go and advice on” (Nurse Tiara).

The explanation from Nurse Tiara, who worked as an In Patient DSN, suggests the need to look at the way the staff managed diabetes for people who were admitted to the hospital with other conditions. This was so their diabetes could be monitored and their blood glucose levels maintained.

7.2.1.5. Diabetes antenatal care

Due to the change in the NICE guidelines, particularly with regards to the lowered GTT parameters, antenatal care had been considered to receive more attention. The

DSNs started to get more pregnant women under their care since the introduction of these new guidelines.

“Ante-natal is a huge area now because the NICE guideline has moved the doorposts for where the cut-off is and we have a huge clinic of antenatal patients now. One of the major issues, and is one of the reasons why I was employed, is that they have changed the guidelines and lowered the GTT result as it used to be over 9 now it’s over 7.8, and so we are getting a lot more through” (Nurse Dephna).

In response to the change, the local team increased the number of ante natal clinics to twice a week whereas previously they were one per week. One of the DSNs said that they expected it to take off, but it had ‘taken off’ more than they had expected.

“I think one of the major issues is, I mean the workload is fine for me, but I think it’s the amount really. Sometimes what I miss is not seeing them at the beginning and I don’t see them all the way through, because they then go through the antenatal channels because then I lose them” (Nurse Dephna).

Another DSN shared the same opinion with regards to consultation for women with diabetes.

“The biggest problem I have got at the moment is Gestational Diabetes because the NICE guidelines have changed, and we now have over 100 people on our books with Gestational Diabetes as well as the Type 2 and the Type 1 that are there anyway. This is a huge, huge problem...a case load for 1 person really... and at the moment we have a girl that works part- time and anyone of us” (Nurse Gina).

The changes in the NICE gestational diabetes guidelines gave an impact on how the DSNs offered their services to pregnant women, as described by Nurse Dephna and

Nurse Gina, as this had increased their workload. All the DSNs were therefore involved as the case load could not be handled by just one DSN. Their explanations show how the team was reinforced to implement the guidelines set by NICE.

7.2.1.6. Diabetes knowledge

According to two DSNs, the knowledge of diabetes of some community health care professionals such as GPs, junior doctors and nurses seemed to be variable and in many instances was not sufficient. This also included the knowledge of staff employed by nursing homes.

“We have problems that surgeries don’t recognise the problem with the person’s diabetes, I am trying to treat them appropriately. This is a lot to do with residential nursing homes as well, and there are major problems as they refer patients in, although they have been given lots of information” (Nurse Gina).

Similar problems which happened to hospital staff were also observed by the above DSN, which, according to her, was caused by a lack of education or preparation.

“The hospital is a major problem to us, because again they all dabble again and don’t know much. To try and get education to the nurses and doctors....I don’t know what to call them - House Officers? They are prescribing insulin and have no idea what they are doing” (Nurse Gina).

Other factors could be related to some unawareness of the need to know more about diabetes. She highlighted that some staff thought that there was no need to know details about diabetes, as they could always refer the patients to the specialist nurses. Another factor could be linked to the limited time available for them to update their knowledge about diabetes.

“To be honest, some of them think that as soon as someone has got diabetes they can pass them on to a specialist nurse and therefore they don’t need to know about it. The nurses I feel sorry for as they do have to stand up to these new doctors who come onto the wards, and they change very often as well don’t they...and that’s a big problem because they are given 20 minutes lecture on insulin and then they go out and prescribe it” (Nurse Gina).

Another factor could be related to the staff’s attitude, as not all of them considered diabetes knowledge as their concern. In the clinical areas, both national and local guidelines were available; some of medical practitioners had their own clinical preferences and felt that they did not need to follow the guidelines.

“But saying that, I find that the nurses and staff, not everybody, but generally the knowledge they have is variable. Some people are very interested in diabetes and other people would pass on this as they feel that they don’t have the interest or the knowledge to look after that patient” (Nurse Tiara).

The diabetes knowledge of the staff, both in primary and secondary care, seems to be inadequate according to Nurse Gina, who had been working as a diabetes team leader for many years. Some of the staff also had attitudes which hindered their ability and interest in understanding more about diabetes. Education was considered to be the answer. The DSNs believed that nurses and doctors should have sufficient time to learn about this condition.

7.2.1.7. Diabetes link team

Issues related to the work of Diabetes Link Nurses were explored by one of the DSNs. There were no similar comments from other DSNs, therefore, the point this

DSN made needs further evaluation.

“A problem with the Link Nurses Meeting is that we don’t look at the outcomes; we don’t look at the changes in a ward. Some of them are fantastic. There are some girls there that really work hard on the ward that have done all sorts of things to help the staff” (Nurse Gina).

“There are other girls and fellows that come along and think that they get a day off if they go to Link Nursing Meetings and don’t send out information. The whole point of them is to disseminate the information onto the wards to staff. Five or ten minutes a day just talking to one member of staff isn’t good enough” (Nurse Gina).

Diabetes Link Nurses have been appointed in the local trust for many years but examining the quotations from Nurse Gina, the initiative needs to be evaluated to show whether it has improved the diabetes outcomes. The programme of the monthly meeting also needs to be restructured to allow more dialogue between the diabetes team and the nurses.

7.2.1.8. Administration and political issues

Dealing with administrative work seemed to be an issue for the DSNs. A lot of time is spent as soon as they receive a referral. Appointment of an Administrator might reduce their time with paper work so that more time can be spent with patients.

"The Admin is also a major issue as we do an awful amount of admin. Once we get the referral through, we then have to make them an appointment, (and I make them that appointment). Then I ring them every week which is fine to meet them, but if their levels look as if they are raised and they need to go through the anti-natal appointment there is a lot of time spent, probably an hour can be spent starting them

on the system which means faxing the GP, referring them to the dietician, making an anti-natal appointment, sorting out paperwork for them to have blood tests and those things you feel could be done by an admin person So that takes half an hour to an hour really, and then there's all the admin that goes with it" (Nurse Dephna).

One of the political issues which were identified by one DSN was related to '*who should pay for their service*'. She explained that people misunderstood, as they thought that the diabetes care is part of the hospital services.

"A problem getting the hospital to pay for services, as we are not a hospital service, which is very often misunderstood. People think that we work for the hospital and we don't, and so it's a big problem for us" (Nurse Gina).

She also mentioned a job within the hospital: the diabetes outreach team, which was paid by a drugs company, which was also at risk due to the current financial situation.

"You know Tanya's role came in but that's financed by a drugs company and I think that finance comes to an end soon so whether they keep that role or not, but even poor Tanya, she does two days a week, has actually said she can only fire fight as she cannot do anything" (Nurse Gina).

Unfortunately, the workload for the DSNs always seemed to be unending. They had more and more patients to see but support was not always sufficient.

"In terms of support, we are struggling at the moment. I have done September staff off duty and we are short and we have a lot of patients to see" (Nurse Gina).

Dealing with the administrative duties, together with the reduction of staff as

explained by Nurse Dephna and Nurse Gina, had increased their workload as DSNs. Although they did not say that the increased workload could have reduced their quality of work and time with the patients, these issues certainly need consideration. Reducing their administrative tasks might help them in focusing their work time on patients' care. The political issues in relation to who should pay for the service had also affected their work. It would be less complicated if the purchaser came from one resource regardless of whether the service was given by the community or hospital. Regretfully, this is not the case in the current NHS system.

7.2.1.9. Uncertainties about the future

Despite the hard work, there were some uncertainties of the future. For example the number of the patients had been increased, but they could not establish more clinics.

Below is a quotation from Nurse Ella:

“Sometimes I put extra clinics in, but we don't know what's happening with the PCTS, so we have everything on hold at the moment, so it's just clinics that are established at the moment” (Nurse Ella).

Another issue was related to the move of the services from the old to the new hospital and to the position of a member of staff who was off sick and which was not being covered whilst she was ill.

“Things are moving very slowly, obviously with the move to the new hospital the Clinical Educator who is helping to implement this is off sick at the moment, so it's a bit of a slow process, but we have moved forward” (Nurse Tiara).

Contact with the patients from certain groups who could not speak English became a problem, as the PCT was no longer employed Health Connectors.

“Then we realise there is a problem and have to involve someone else at that point to try to make contact with the patient. We did employ some Health Connectors into the team to try and help us with this problem, but some of them are no longer being employed, so I am not sure what the future holds” (Nurse Trina).

The uncertainty for the future practice, as expressed by these DSNs, seems to be related with the cost cutting. The unavailability of staff to cover when someone was ill, the slow process of moving the inpatient service to the new hospital and the discontinuation of the employment of the Health Connectors raised a great concern. There was nothing else the DSNs could do apart from waiting, as realised by Nurse Ella. Regretfully, with all these uncertainties, they did not know how this would impact on their consultations with the patients.

7.2.2.Theme: My expectations towards the patients

Many of the patients had been under the care of the diabetes team for many years. There were also new patients who were not familiar with the diabetes services. In all any interaction involving two parties, there are always expectations each party has with regards to the other party. The DSNs indicated some characteristics they would like their patients to have, including ‘*aware and able to tell their condition*’, ‘*have a sense of ownership of their diabetes*’ and ‘*self-management*’.

7.2.2.1.Telling their condition

The patients' understanding of their diabetes condition and their ability to talk freely about it in their consultations was expected by the DSNs. Below is an example of what the nurses were expecting to be told:

“I would expect you to give me a brief history of your diabetes, your condition and

your problems, and to be able to fill me in on what's been happening and tell me how it is for you really" (Nurse Bora).

The referral system, including those from the patients' GPs or self-referrals, had helped the DSNs and the patients in clarifying the reasons for them to see the nurses. Occasionally, certain patients were not sure of the reasons to see the DSNs; consequently they were not able to explain about their condition.

7.2.2.2. Ownership

Another DSN argued that all patients should have a sense of ownership of their diabetes and care. Unexpectedly the situation could change, particularly when the patients needed hospitalisation. Nurse Tiara explained about this issue as follows:

"Obviously some of the ownership of the diabetes is taken away from them, because they are ill and they are not always able to look after themselves as they are following the ward routine" (Nurse Tiara).

The explanation from Nurse Tiara indicates the need to assess the ability of the patients to continue with their diabetes self-medication when they needed to be admitted to the hospital. This would allow the patients to keep their ownership and control during their stay in the hospital. Unfortunately, the ownership of diabetes and care which is intensively promoted in primary care settings is not always well maintained within secondary care settings.

7.2.2.3. Self-management

Ownership or self-control is usually related to self-management. The following phrases explain another expectation on self-management:

“I think that in each individual patient. What we look at is what can be achieved. My expectation is that each patient will take on board some amount of self-management, so it might be controlling their diet, controlling their exercise, controlling their medication, but I would like patients to see me and be able to discuss it without being told what to do and impart the self-management role to them” (Nurse Gina).

Self-management was considered by Nurse Gina as being essential. She expected that the patients should be able to control not only their medication but also manage their diet and take exercise regularly. She agreed that in order to self-manage, the patients should have sufficient knowledge about diabetes and a willingness to change. An initiative ‘*Think Glucose*’ was led by the local Trust to increase the awareness of diabetes, particularly hypoglycaemia. One DSN mentioned about this project, but she did not explain how the initiative had made an impact on her role and to her patients.

7.2.3.Theme: Personal development

It was not the intention of the interviews to ask the DSNs about their professional development. However, some of them voluntarily mentioned this element as it had enhanced their consultation with the patients. Some aspects such as self-motivation, self-assessment or regular monitoring and areas uncertainties about the future were identified.

7.2.3.1. Self-motivation

Majority of these DSNs had been holding their specialist posts for many years with the exception of one person who only been doing her post over a year. Their motivation to become a DSN was mainly related to their interest in focusing on one

particular area of nursing.

“I have been working as a Diabetes Specialist Nurse since 1993. I initially worked in the private sector and therefore initially worked part-time with the diabetes team, and then went full time in 1995” (Nurse Trina).

“Decided to become a diabetes nurse as a practise nurse deals with things rather generally; a lot of general management. I felt that if I didn’t go particularly deep into it, and felt that I wanted to know one thing and one thing well” (Nurse Dephna).

Some of the DSNs stated the specialisation they would like to possess. However, this could would not be easy as in reality they should be able to share their job with other DSNs.

“ I do the anti-natal stuff as well as there is so much work as well we have to share it, but I enjoy my work in General Practise and in the diabetes specialist clinic. In my past life I was a mid-wife so I wouldn’t mind if my job took me down the anti-natal route dealing with pregnant ladies with diabetes I would be quite happy”
(Nurse Bora).

The above three nurses all clarified their reasons for working as DSNs. Some of them (Nurse Trina for example) had been through a long nursing career before she decided to focus on diabetes. Another nurse (Nurse Bora) who had previously qualified as a Midwife and worked with pregnant women, decided to continue her career pathway by working with pregnant women with diabetes. It was apparent that they all had experiences in diabetes care prior to working as DSNs.

7.2.3.2. Self-assessment and peer review

Due to the complexity of the role, this post could be very demanding. One new DSN in her explanation used a phrase ‘*challenging*’ to express her experience as a new team member:

“I have been working for just over a year and find it very challenging. There is a lot of troubleshooting and because I am learning the job I find it challenging. I do get some reward, but find there is a lot to turn, so sometimes I have to just stand back” (Nurse Tiara).

Unfortunately, this DSN resigned from her job a few months after this research was conducted. This could raise questions on how the DSNs are prepared to take on their role and are supported during their probation period. Clearly, working as a DSN was not suitable for her, as she thought that handling that type of pressure might be too ‘*challenging*’.

Although many of the DSNs had been employed for many years, they realised that they still needed to assess themselves and to identify areas for development. One nurse who had been working for nearly 10 years clarified one of her learning needs below:

“....but hadn’t done anything with insulin so that has been a whole new learning circle” (Nurse Dephna).

Peer review or learning from each other was considered to be useful as they could compare their styles and improve their own style.

“I feel that we learn a lot from each other because people do consultations differently and I think that I am ok but in practise I have sat down with somebody else and watched them do a consultation, and have learned from that as they have

worked in a completely different way” (Nurse Trina).

In addition to peer reviews, two other DSNs mentioned about a monthly update and regular monitoring. The monthly update was crucial as health services changed so much and if they missed the update, this could be a problem.

This sub-theme gives clear explanations on how the DSNs engaged in their personal development. Self-motivation and self-assessment were considered as being essential. Working and supporting the rest of the team in the form of peer review, regular monitoring and monthly updates were needed to enable them to maintain their roles and adjust to the changes.

7.2.4.Theme: Consultation approaches

This theme focuses on how the DSNs approached their patients. Many administrative, interpersonal and decision making skills the nurses utilised in their consultations are identified and presented as sub-themes which include: Being there, self-referral, knowing the patient, setting up the environment, being friendly, introduction, let the patient tell their story, problems solving and decision making, information giving, reassurance or confirmation, involving the family or partner and follow up.

7.2.4.1. Being there

It was the intention for the DSNs to make themselves available for the patients. All the DSNs were contactable and they shared their mobile phone numbers with the patients. Four statements have been selected to show how the DSNs made themselves available to their patients:

“They can ring me anytime between 8am and 6pm and leave a message if I am not available, and I will get back to them” (Nurse Trina).

In case they were not available, the patients were referred to the helpline number and there was always someone there to help them.

“Well I only work Tuesdays to Fridays and I’ve got my mobile number and my landline number, and I give them the help line number” (Nurse Ima).

“If I am not here or cannot get hold of me, they get the help line number as well. I did the help line on Monday morning and I had 42 contacts by phone, and a lot of them were on the emergency phone” (Nurse Trina).

“Some people prefer to discuss their problems over the telephone rather than make a personal visit, which is fine. As you can imagine, there are a lot of patients who live outside of the area and they cannot travel in, and we would do a lot by the phone” (Nurse Trina).

Being contactable was considered to be a common practice by the DSNs. The patients could always call their mobile phones whenever required and there was always someone available through the helpline number. The number of incoming telephone calls could be high, as mentioned by Nurse Trina. These DSNs needed to be knowledgeable and familiar with the routine and guidelines, as in the many cases where the patients rang them when they were not in their offices or in front of their computers.

7.2.4.2. Self-referral

There were many ways patients could access the services from the DSNs either via GP's, Practice Nurse's or self-referral. The last one made it easy for the patients as they did not need to go through their GPs or Practice Nurses. The initiative was started a few years ago to tackle some local problems in referral and following another initiative. The 'drop in centre' was introduced and is now part of the referral system.

"The Northside Clinic is how it first started, I don't know if it's of interest to you but James and I looked at the referrals coming through and we noticed they were coming from 3 or 4 surgeries and they were what we would call inappropriate referrals so they were like 'patients on maximum' or really wishy-washy referrals" (Nurse Gina).

The self-referral was designed so apart from the patients, the DSNs could check the referrals sent to them as quick as possible.

"The self-referral system gives the help line number which each diabetic patient in our area should have access to that which is something we are looking into. So they need to phone up and say they are having a problem and they will be seen at the centre here, or if they are at the GP practice will just ask the receptionist to just book them in to a specialist nurse. So they don't need a GP referral. It's a much quicker service" (Nurse Gina).

GPs and Practice Nurses used this as the main route to refer patients to DSNs and in case they needed to speak to them urgently, they could ring the DSNs' mobile phone numbers.

"Ok. I have clinics at GP's surgeries, at least two a week or could be one a week or

four a week but generally two, so GP's will refer these through. We also get referrals come through and all the GP's know my mobile number and we also get referrals from consultants, and we also get people self-referring, so we either see them in the GP's surgery or here" (Nurse Ima).

In order to prevent inappropriate referral, they had referral criteria so that other health care professionals could decide whether the patients needed to see the DSNs or the diabetes team members or not.

"The midwife has the criteria, so if they are overweight for example, they decided if they need a GTT which is often around twenty eight weeks. If the post GTT comes back above 7.8, then they come back and come into our system, so the majority of them are referred by the mid-wife" (Nurse Dephna).

Patients were also referred by staff from the local hospitals and mental health departments. In this case, the In-patient referrals were followed up by the In-patient DSN.

"Within twenty-four hours normally. The referrals are sent by ten o'clock, which come through the computerised system, and those are printed off and I take them with me to the hospital and it could be either St Patrick hospital or Princess hospital, and I have been to both today, or in the Mental Health Depts" (Nurse Tiara).

The DSNs, in their above statements, observed that the access to their services was faster and easier with self-referral directly from the patients, in addition to the regular referrals made by other health care professionals. The patients could be seen quicker, as the DSNs were able to check their availability as soon as the referral

forms or phone requests were received. This system seemed to enhance the previous theme of ‘*being there*’, which was to make themselves available. The routes to contact them should then be made clear and easier, both for patients and other health care professionals.

7.2.4.3. Know your patient

The patients who came to the clinic had a wide range of different backgrounds, ages, culture, attitudes, conditions or treatments. Therefore, the DSNs realised they needed to understand their patients, which could be started at the pre-consultation phase or even before they had met their patients. The following quotations have been selected to visualise the findings.

“Before the consultation, we try to get the information. Unfortunately, they are not all on the same IT system, so that creates a problem and if we had shared care from all GPs I would be able to access that information immediately” (Nurse Trina).

Due to the patients’ special needs and regime, each of the DSN had a certain main group of patients including children, adults, in-patients and women with gestational diabetes and they were very clear about what types or groups of patients were under their care.

“Well I had dealt a lot with the Type 2 diabetes in the surgery and had become a Prescriber and dealt all with the Type 2’s. So I had a good grounding in diabetes” (Nurse Dephna).

“I certainly saw a lot of pregnant ladies, so I deal with pregnancy and diabetes in the community. We see In Patients, so that can be anything and can be from Type 2 to Type 1. I also do education with newly diagnosed type 2 patients and with the type

I's with our local diabetes structured education" (Nurse Gina).

However, there were also expectations that they should be able to look after all types of patients particularly when a certain DSN was not available.

"I don't do children particularly, but when DSN A is on holiday we cover so we still have to carry the emergency phone when she is not here, but we don't see children if she's here, and one of the other girls has taken on paediatric diabetes as well"

(Nurse Bora).

Understanding the patient's characteristic was considered to be another aspect the DSNs should do as part of their assessment. For example, some of them just wanted to be told the information and in this case one DSN tended to do what she called '*a prescriptive approach*'. Another DSN highlighted that everyone was different; some patients could answer their questions easily, others could not.

The explanations made by these nurses show that they used different ways to get to know their patients in the preliminary stage of their consultations. Sharing the IT system with GPs enabled them to check the patients' health history before they had made contact. For new patients, they asked the patients for their reasons to see the nurses. Although each DSN had a special interest in a certain aspect of diabetes such as gestational, children and in-patient, there was a demand that they should also know all the other different areas of diabetes. This was so that they could cover or support each other, particularly in cases of an emergency or when another DSN was not available. The DSNs also realised that every patient was different and their approaches needed to be tailored individually.

7.2.4.4. Being friendly

The principles of ‘*being friendly*’ were mentioned by the majority of the DSNs. For them being friendly could be performed by a less formal approach either by considering the seating arrangement, by allowing the patient to use the nurse’s first name or by involving them in decision making.

The DSNs commented on the building and consultation rooms where they worked. They were pleased with the infrastructure of the building and consulting rooms. Compared to the old building, the layout of the new building was more suitable for their consultations. Below are some of their comments:

“I think here we are fine. It’s lovely here and the backroom is good as it’s more like a counselling room” (Nurse Bora).

“I like the consultation rooms here as you can sit in a circle. It’s difficult as most of the information is here (in a desk) and I try to read though and make a few notes so that I am not at the computer. If I am checking on a result or something I will always say to patients: Do you mind if I just check things on the computer for a few minutes’, but I try to focus on the patient being in the room” (Nurse Gina).

One DSN gave an example of how she decided to select a more friendly consulting room when consulting an anxious patient.

“If somebody is new or anxious then I often use that room because it’s less clinical I think and more friendly. It’s easier for people to sit together on a sofa, and if they have brought somebody with them and if they are anxious or pregnant or anyone Type 1, then I tend to use that room as it is less clinical” (Nurse Bora).

Similarly, another DSN (Nurse Gina) also commented on the arrangement of the room so that the patients could communicate with her in more relaxed atmosphere:

“When they come to see me in the consultation room, I change the room round very often especially in GP practises as they are very informal. When we go to the Mat. Unit I make it so that we are all sitting in a group. Because we have all been in consultations where the Doctor has been sat here like this (at computer?) so we try to make it informal because that way people open up and chat to you” (Nurse Gina).

Another approach was by avoiding looking at the computer screen while communicating with patients, as described by one nurse below. This situation seems to happen commonly in medical consultations when the time of consultation is limited.

“One of the patients there who objected to a health professional constantly looking at the screen, and since then, what I do, is look at the screen before I come down and sit with the patient; and I don’t look constantly at the screen, give the consultation and then get back (Nurse Trina).

Asking the patient to call the nurse by their Christian name and not family name was considered to be helpful. Being friendly was also perceived as ‘*being not judgemental*’, ‘*involving the patients in decision making*’ and ‘*approaching each patient individually or equally*’. The following quotations explain how these terms were used by Nurse Ima:

“I try to be friendly and I don’t say my name is Sister Willberforce, I say my name is Ima. I also try to involve them in the decision making. I try to keep it fairly friendly, and try not to be judgemental, and try to let them come to conclusions about how they want to be treated. It is trying to teach each patient individually because everybody has different needs” (Nurse Ima).

Reading all the comments made by these nurses, it can be interpreted that showing friendliness was apparent. The selection of the consulting rooms and the arrangement of the seating areas with the patients were mentioned by the DSNs as ways to make the consultation friendlier. In addition to the consultation rooms, there was also an education kitchen and meeting room which were used to educate patients about their diet. Equal interaction between the patients and the DSNs should also be maintained to reduce any perception of hierarchy.

7.2.4.5. Introduction

There were some common ways the DSNs used to introduce themselves to their patients. They realised the importance of welcoming the patients and giving them time to get to know them particularly for those who they had never met before.

“If it’s the first time I meet someone then I explain who I am and what my job is and ask them why they think they have been referred to see me, because sometimes they have no idea, or choose not to have any idea” (Nurse Ima).

Two other DSNs gave more clear ways of how to introduce themselves, including shaking the patient’s hand and the use of general greetings.

“I always go and fetch them myself and welcome them into the room. I always shake their hand and always introduce myself completely and say who I am and what I am doing” (Nurse Bora).

“It might just be ‘How are you and how do you manage with your diabetes, how do you manage to work with it? So I give them chance to tell me a story, rather than ‘what do you do when you go to work with your diabetes, or what tablets do you

take...?” (Nurse Gina).

It seemed that they used personal experiences to approach the patients rather than following a certain model. When they were asked about what structure or model of consultation they followed, no specific name was mentioned. One DSN said that she used ‘*social model*’ and it was unclear what this meant to her. Another DSN said that she did not know:

“I don’t know what it’s called (consultation models), I don’t know (Laughter)”
(Nurse Ima).

Examining the explanations from these DSNs, it is clear that in the early stage of their consultations, they used a variety of ways to introduce themselves to their patients. Surprisingly, they did not name any consultation model they followed or adopted. It might be due to the non-existence of consultation models for nurses.

7.2.4.6. Let the patient tell their story

Some DSNs recognised that they used a particular technique when approaching the patients. They recognised that nurses and patients might come to the consultation room with their own different agendas:

“I have changed my consultation skills because when I first came into diabetes care I thought I had my own agenda, and I thought that things wouldn’t go the way I planned if I didn’t say what I thought I should say in that consultation (Nurse Trina)”

In order to reduce the risk of confronting with different agendas, they felt that the patient should be given a chance to tell their story:

“So to get them to tell a story about their diabetes is the idea, and that way they feel important and that’s what I try to do” (Nurse Gina).

“Nowadays, I get the patient to tell me about their diabetes and where they are with it and what they are struggling with. So I try to look at their concerns rather than my own, and then discuss any issues they may have and not try not to rush the patient as I used to” (Nurse Trina).

One of the advantages of letting the patients tell their stories was that the nurses could gain rich information from them.

“In face to face consultations you will also learn a lot from the patient” (Nurse Trina).

With a longer consultation time available, one of the DSNs stated that she was able to listen to her patients. Listening seemed to be an important skill in addition to allowing the patient to tell their story.

“Make them feel that they are important. GP’s just have ten minutes with them and it’s just ‘do this, do this, do this’ and that’s why they don’t do it, and that’s basic psychology isn’t it? If you sit with somebody and make them feel important I feel they are more likely to think ‘well she did have time and she did listen” (Nurse Gina).

In this sub-theme, the DSNs noticed that by allowing their patients to explain their issues, it helped them to focus on the consultation from the patients’ perspectives. They also thought about listening and making the patients feel important, while at the same time showing interest in the patients’ story.

7.2.4.7. Problems solving and decision making

So often, the DSNs were faced with complex diabetes care issues which could relate to the treatment options, multi-factorial conditions the patients had, or emergency calls. The following quotations are presented as examples.

“There are sometimes, and it’s usually a treatment decision where I am not sure what to do. For example, it may be about a patient with another illness going on and I wouldn’t be one hundred % sure of the type of drug to be used as it might interact with something else they were taking” (Nurse Bora).

“I can’t make lots of other decisions, for example I saw a gentleman this morning who had a very rare skin condition and he went to Alderhigh last month to a regional dermatology conference and had thirty doctors looking at his skin, and then they split up and had a little talk, and when they came back they had two suggestions for him. One was that it was caused by a blood disorder, and the other was that it may be a side effect of some of the tablets and unless they were absolutely essential they wanted him to stop using them. So he came to me this morning asking what did I think, so I can’t do that type of stuff” (Nurse Bora).

The above statements show how Nurse Bora was involved in complex health issues. She used words such as ‘I am not sure what to do’, or ‘I can’t do that type of stuff’ which demonstrates her problem solving process and realised that the issues were beyond her capacity as a DSN. This situation was very challenging and the DSNs were frustrated as they could be unsure of what they needed to do for their patients:

“Yes it is, very complicated. Very challenging, and everybody who goes through wards says the same thing. It’s challenging because there are lots of complex issues, and I have to try and remind myself really that I am there to help not only

with diabetes control” (Nurse Tiara).

“So I want to say frustration, but I don’t really know if that is the right word. So how could I motivate him, or how could I make a difference to him really. That’s the problem” (Nurse Bora).

Patients who had complex issues could end up in a situation where they might be transferred to and from the diabetes team to their GPs or vice versa until a decision could be made. This area would be worth investigating by interviewing GPs as well.

“So I haven’t arranged to see him again and said come back and see the consultant but if there is something he feels I can help him with then come back into my clinic, otherwise the other GP will take him back” (Nurse Bora).

Self-evaluation or understanding self-limitations were useful so that the DSNs knew when they needed to get help, either from colleagues or from other health care professionals.

“Well, sometimes you cannot always make the right decision, so often and because we are all in the same room, we discuss patients between each other and ask what you would do in this situation” (Nurse Trina).

In addition to self-evaluation, a team agreement or consensus on what complex issues should be decided upon by the diabetes team seemed to be useful.

“If there was a family crisis or if you had to change somebody’s insulin and there was a problem at home, we discuss it as a team” (Nurse Trina).

“So if you were considering for someone to go on the pump and that they had been

through the criteria, and that we wanted to put this person forward for pump therapy, then this would be brought to that meeting. The decision would be made there either yes or no depending what the issue was or they may be advised had they done the PDAC course, and if not, do that first before considering the pump” (Nurse Trina).

There were many ways to solve complex issues and the strategies which they found worked well, which included contacting the Diabetologists and having regular or disciplinary meetings (every two weeks) and also with DSNs, as well as discussing the issues and sharing the same office and information with other DSNs.

“We also have meetings every two weeks with the Consultants which are where we review cases, so we bring difficult cases to him, but also both our consultants are very approachable” (Nurse Gina).

“We do have MDT meetings twice a month so that if I, or any of the others, have a problem and we don’t know what to do, then we can take them to the MDT meeting, or if he can consider one of the drugs which we cannot prescribe in the community at the moment, then we can discuss the patient there and get them referred in” (Nurse Ella).

The disciplinary meetings in particular were also held at surgeries monthly, so that any issues relating to diabetes care for certain patients could be discussed as well.

These quotations surrounding decision making and problem solving suggest that the DSNs could engage with patients’ complex issues which demanded the DSN’s self-awareness of their ability or inability to solve the problems. In many cases, the issues needed to be discussed with other health care team members and the decision was

made by the whole team. The DSNs gave some brief examples on what complex issues they usually encountered. A further study could be useful to explore more details in this area.

7.2.4.8. Information giving

Providing information or health education routinely performed by the DSNs and this could be the main reason for the patients to attend their consultations as described by Nurse Gina below:

“So I started to do them and found that most of the patients needed lifestyle entrenchments and certainly didn’t all need to go on insulin but those that did need to go on background insulin I happily started in Community” (Nurse Gina).

With the availability of the internet and other technologies, patients could get health information easier and quicker. This has influenced the way the information shared or discussed in consultations. In some consultations, the role of the DSNs was mainly to clarify the information.

“Well a lot of patients have heard about NICE and have read what has been in the papers, so I will often, and if it comes up in the conversation, and if it’s something to do with their medication, then I will actually tell them what the Government guidelines are for this or for that or their HbA1c level or their blood glucose or whatever, and explain who NICE are and the reasons why we should do this” (Nurse Bora).

There was some common information which sometimes could not be covered in the individual consultation. Some DSNs indicated some local initiatives which they expected to be able to solve the situation.

“We were going to do some group sessions, especially with diet with food, as we were going to be a pilot for the educator, but the two girls who were going to be the educators have dropped out. So we have actually got all the food models ready to do the work with them, so we probably need to find out what is going to happen as well” (Nurse Ella).

“We need to utilise our time, and although we do group insulin stuff and we need to do those groups, but often we don’t put as many on, or convert to insulin, as we have now got a new drug and we do that as a group meet start now as well” (Nurse Ella).

The information from Diabetes UK is also available for people with diabetes and many of them were able to access this information, therefore this could reduce the time the DSNs’ needed to spend in explanation.

“Quite a lot of them have read ‘The Balance’ magazine, and quite a lot have read information in the ‘Daily Mail’, or have already been on the Internet and found out information” (Nurse Bora) .

The quotation above needs a consideration particularly with regards to the accuracy of information accessed by the patients.

Delivering health education on life style or giving information of diabetes and its care management, such as insulin or diet, were mentioned by the above DSNs.

Unfortunately, the time was not always sufficient; therefore some of the topics were delivered as group teachings. The DSNs felt that with the availability of information about diabetes on the internet and magazines, these had helped the patients in understanding their condition.

7.2.4.9. Time allocated for consultation

For each consultation, thirty minutes was allocated. As explained in the quotations below, the DSNs felt that the time was sufficient.

“We have 30 minutes the consultation takes thirty minutes. In fact, the consultation can often go over because they are obviously very worried; they come and be told they have got diabetes and worried about the risks to their baby, so first of all you are having to calm them down” (Nurse Dephna).

“If there are difficult issues that need discussing it can take longer than the thirty minutes, for example with pregnant patients or someone who is new to insulin it might take longer as you have to demonstrate the use of the equipment , but generally the normal time allowed is sufficient” (Nurse Trina).

The consultations with the DSNs have reduced not only the waiting list but also the workload of the Diabetologists.

“So I went along to those clinics and asked if I could do a clinic per month for thirty minutes per patient and see six patients and instead of referring them to James (the name has been changed to protect confidentiality) they would come to me” (Nurse Gina).

This finding was similar to the views from the patients in which they did not find any issue with the time allocated for them. Only in certain cases did they spend longer, such as when seeing a new patient, consulting anxious patients or patients who had complex treatment. In the integration chapter, a further comparison with the quantitative findings is explained.

7.2.4.10. Reassurance or confirmation

Providing reassurance was recognised to be essential. In these quotations, the DSNs explained how they reassured their patients:

“I see the patient more often, but you find with seeing them in the GPs surgery it sometimes is a problem (?)” (Nurse Ella).

“That’s what I try to do, but sometimes you can’t like with pregnant women if they have not kept it under control then I tend to lay the law down a bit, but I try to do it as a partnership” (Nurse Ima).

“This might reassure someone who is very anxious, like a pregnant woman for example, and assuring them that their glucose is at the right levels and giving them this information, then that might reassure the patient” (Nurse Trina).

Another DSN explained that contacting the patients through their phone was an effective way to reassure them:

“I feel is most beneficial to the patient, either telephone or one to one, it varies but I think that the system to telephone the individual is best (Nurse Tiara).

The ways the DSNs reassured their patients could be by seeing them more often, giving reinforcement, or by giving them a telephone call. This last method seemed to be more favourable as it did not required the patient to attend a one to one consultation, and the time could be adjusted to suit both parties.

7.2.4.11 Involving the family or partner

Many patients were not alone when they came to the consultation rooms. They could

bring someone with them who could be a family member or a partner. Nurse Trina explained the importance of involving family members in patients' consultations:

"We see lots of elderly patients who are on insulin therapy and it's the issues with the carers that we are often very concerned about, so I find it very important to involve the carer in the consultation and to make sure the carer is aware what to do should a hypo occur. Often there is interaction with those drugs and often the carer doesn't know if it's the diabetes or some other condition" (Nurse Trina).

Unfortunately, as Nurse Gina described below, maintaining confidentiality could be a problem when the patient attended their consultation with someone else:

"So sometimes you know, if you're trying to make a patient confident in you, we might not talk too much about the diabetes" (Nurse Gina).

The situation could also be tricky if a young patient came with their parents as the parents could intervene in the patient's choices. The DSNs also needed to make a judgement on the degree of the family's involvement.

"Often the parents can intervene as well and perhaps the young person doesn't want that but it makes it very difficult when having parents tell that young person what to do and what not to do" (Nurse Trina).

The issues related to transitional care from children to adult were explained by the same DSN (Nurse Trina) who recognised the responsibility of the parents to their children until the age of eighteen.

"So what we try to do is to involve the parents, but allow the young person to have time with myself without the parents. Once they are over eighteen it should be the young person only" (Nurse Trina).

The explanations from the DSNs in this sub-theme show that so often patients came to see the DSNs with their family members, therefore involving them in the consultation was essential. However, it created confidential issues and affected the way the DSNs shared the patient's information. Therefore, an agreement needed to be made between the DSNs and the patients on how they would share information.

7.2.4.12. Follow up

Following the consultations, the DSNs arranged a follow-up for each patient. They explained their role in deciding when and how the follow up needed to be planned. There were many aspects that the DSNs considered, for example, those patients who were on new insulin would be followed up quicker.

“It would depend on what I'd do, and what medication I had changed and on how long I would leave it before booking you in for another clinic. If it was for a female patient it would probably be fairly soon. If it was changes other than medication, it could be next month. Sometimes follow-up is done by telephone contact” (Nurse Ella).

“So anyone who has just started on insulin you will see them that day and I do a telephone contact the next day to make sure that they managed the injection ok and I will see them in three to four days or it depends when they started in the week but I would see them within that week again and then keep telephone contacts going and see them as they need” (Nurse Ima).

The arrangement set up for women with diabetes seemed different and the DSN only followed up the women who did not go through the anti-natal clinic, or referred them back to the ante-natal clinic.

“So basically there is a group that doesn’t go through the anti-natal clinic, which I will follow up, but the majority go through the anti-natal and I lose touch and that’s my problem really”(Nurse Dephna)

Follow up was also conducted by phone and the majority of the DSNs felt that this was an effective way as the patients did not need to go to the clinic.

“Mostly by phone because of time really and resources, but it depends on what it is they need. So they can either book back into the clinic whenever I am next there, or I will phone them or they can phone me. It might be a couple of days or a week or a month, it depends what we have done concerning the consultation” (Nurse Bora).

Home visits could be useful, however, it appeared to be less popular and this would be arranged only for patients with a particular situation.

“Well we don’t do many home visits, and its only really when they are housebound that this happens, but sometimes you do gain a lot from doing a home visit as you can see what’s going on more” (Nurse Ella).

One outcome of follow up was indicated by one DSN as the reduction of referral rate to the Diabetologist, as well as the reduction in waiting lists for those who needed initiation in using insulin.

“So they got seen really quickly, James’s referral rate started to drop because he wasn’t seeing patients. Previously, if they needed to be put on insulin it might have been nine months before he saw them and by then they would have been in a bit of a sorry state, so it worked all round” (Nurse Gina).

Another DSN recognised another outcome of DSNs’ follow up in the form of a

better glycaemic control amongst patients.

“We try to address the glycaemic control and then follow up in community. And that’s all we can achieve realistically. If the opportunity arises for health promotion then I try to address that as well, and it always arises along with issues of diet and lifestyle” (Nurse Tiara).

Unfortunately, conducting a follow up could be time consuming, as so often this involved the DSNs contacting the GP or consultant as well as updating the record on the IT system.

“That involves speaking to the patient, contacting the GP or the Consultant or Antenatal, doing your documentation on the IT system and then ringing the patient back so that can involve half an hour just for that one patient. So the number of people you speak to as well as the patient might include the GP, a Doctor, Health Professionals and a Mid-Wife” (Nurse Trina).

The above quotations consist of the decisions made by the DSNs in following up the patients after they attended their consultations. Timing was crucial particularly for any patient who needed insulin. The use of telephone contact was normal, as this was a more convenient method. One main important issue concerning the follow up stressed here was the time taken in speaking with their patient, together with other health care professionals and updating the patients’ electronic record. As indicated in the theme: ‘current issues’, the appointment of an Administrator might solve the problem.

7.2.5.Theme: Team working

Teams working with other health care professionals were also considered to be vital.

The DSNs indicated how other health care teams such as GPs, Practice Nurses,

District Nurses and Diabetes Care Technicians contributed to patients' care.

"Now in some surgeries, such as Green Thorpe, that was a very busy surgery, I used to do two clinics a month. So some surgeries got two clinics a month, some get one a month, and also the expertise of the Practise Nurses helps (Nurse Gina)".

The contribution of Care Technicians particularly in delivering annual reviews was praised by the DSNs although in the analysis of the interviews with the patients, there is a communication issue expressed by one patient (see the Qual results from the patients' interviews).

"...and then we have the Care Technician role as we realise that annual reviews were hit and missed. So James and I and Lilly Marsh and a few members from the Workforce team, set about arranging an annual review and that's when the clinics are available and that information is on there as well" (Nurse Gina).

"There is one care technician that is doing retinal photography....and another doing languages so that role is being done as well. We go out to what we call broader practices (she mentioned four places), so they all get services" (Nurse Gina).

This sub-theme, although brief, gives some views on the contributions from the health care team members, particularly district nurses and diabetes care technicians.

The information on the contributions from other team members including the consultant is also included in the theme: *'problem solving and decision making'* as

the explanations were more related to professional judgment rather than team working.

7.2.6.Summary

Similar to the findings obtained from the patients, the analysis from interviewing the DSNs has shown negative and positive experiences of diabetes consultation. The DSNs stressed that the diabetes problems not only related to self-care management, but also to diabetes services in the community and hospital (for example in patient care issues). This fact has indicated that the consultations were not separated from the broader diabetes care management.

Compared to the patients, the nurses were able to give more information on issues which impacted the patients' consultations, such as non- concordance and language barriers (in patients who had limited English proficiency). They also expressed a range of diabetes service issues which were mainly linked with the changes in government strategies and staff knowledge. It was not clear whether their expectations from the patients were met. Somehow, they clearly realised that patients should have taken more responsibility and ownership in their condition.

The analysis has also found similar interpersonal characteristics as stated by the patients, such as '*being friendly*', 'knowing the patient' and 'being available for the patient'. In addition to these, other aspects, such as decision making and involving the patients or families, were considered to be essential. The last major finding was that there was good support, particularly from the diabetologists, perhaps due to the length of time they had been working together. Unfortunately, support from the Trust

in terms of study leave could be problematic due to staffing levels and they felt that overall, there was a lack of administrative support.

Sections 7.1 and 7.2 raise a number of issues not only related to consultation but also diabetes care services. It should be noted that it is the consultation that should bring those into focus. This section considers how the issues are further investigated through conversation analysis (CA).

7.3. Conversation analysis of the nurse-patient consultations

The analysis started with verbatim transcription of the data obtained from seven nurse-patient consultations. The consultations were observed by the Researcher and in these consultations, same nurses were involved. Five patients who were participating in the interviews also participated. The other two patients were not involved in the interviews. The transcription was then written in detail in order to enable it to be used for conversation analysis (CA). As indicated in the methodology chapter, symbols common to conversation analysis (Jefferson, 2005) were used. A list of these symbols is attached in the appendices (Appendix 7). The analysis then involved examination of any utterances and many aspects of non-verbal communication. To do so, some elements of CA such as *'turn design'*, *'conversational opening'*, *'adjacency pairs'* and *'repair'* are investigated. The last analysis involved connecting utterances and social actions together, so that a pattern or stages of consultation could be formulated.

Looking at the data/utterances obtained from the seven consultations, it has been found that there are similar patterns of consultations which can be divided into three different stages: the opening, the core and the closure. The time of consultations

7.3.1. The opening

The following utterances were selected from the taking part of a patient in her new consultation with the DSN. It gives an example of how the DSN started her consultation by asking about the ‘patient’s feelings’, which actually were used to elicit signs and symptoms.

DW B0010 1

- 233

The above example shows how the concept of '*turn design*' was evident in this consultation. It gives an idea of how the DSN and the patient interacted with each other from the start of the consultation. The DSN seemed to show an anticipation of one element of '*turn design*' which Hutchby and Wooffitt (2008) referred to as '*project ability*': the ability of participants to project what sort of unit they talk about and how it could end. In lines 1/4/6, the DSN tried to find out as much as possible about the common symptoms of diabetes, which might help her confirming the state of this patient's condition. Some overlaps were found as indicated in lines 2/3. Interestingly, other overlaps were also noted within this consultation. Jefferson (2005) argues that overlapping talks could be caused by people not giving sufficient attention to each other. However, it could have also been the case, in this extract, that there was another fact which needed considering, which related to the inability of the patient to stay long due to her employment as a hairdresser.

In lines 7/9, the patient gave evidence that she was aware that she lost some weight but would like to lose more. At the start of this consultation, the DSN does not investigate this fact in detail, but raises this issue again in the later stages of consultation. In this conversation, the utterances typically came in pairs (*adjacency pairs*) in a form of question and answer. The DSN is the person who initiated the questions and the patient gave the answers in a formal way. It also appeared that the patient established her partnership with the DSN quicker. The laughter in lines 7/9 showed the informality of their conversation and their establishment as '*friends*' rather than as a patient and a therapist.

The DSN in the next extract approached the patient differently. This extract is taken from a consultation involving a patient (male, 65 years old) who needed his medication changing, his wife was also present.

DW_C0011_1

1. N: You know we talked about that tablet you were on::
2. PW: Yeah?
3. N: It said that it wasn't safe (0.4). because you were over 65? (0.6)
4. P: All right (yes I think so)
5. N: Well they have changed you to Tolbutamide. (0.4) tablet.
6. P: Yes?
7. PW: I don't know when did you start it that actually?
8. P: No.
9. N: You can start that tomorrow then::
10. PW: Yes, cause t'day.
11. N: O↑ka[y]
12. PW: [He] took Gliclazide this mo:rning, and then he takes it again ()
(hhh)
13. N: Al:right, well he could start↑ with it at teatime if you like.
14. PW: Oh could he?

In this occasion, the DSN started her consultation by directly focusing on the issue she wanted to discuss with the patient (This patient was referred by a local GP who wanted the DSN to explain and discuss the changes of the treatment). Therefore, in this consultation, they had a clear aspect they wanted to address. In lines 2/4/6, there were some non-verbal clues, such as the increased tones at the end of 'yeah' as well as the use of the words 'yes, I think so' which could have indicated 'uncertainties' or a lack of the patient and his wife's knowledge about the medication. In line 14, the response could also have given another clue of the lack of knowledge or understanding. In this conversation, the 'turn design' was characterised by the engagement of the patient's wife rather than the patient. This situation has also been observed in other consultations where the patient is attended by family members or partners. It has given evidence of the involvement of family members in the care of diabetes, which is worth further investigating.

As the majority of the patients came to see the DSNs in order to enable them to better control their blood glucose, the consultations were often started by checking the blood glucose levels. In the case below, the patient came with a diary so that patterns could be checked with the DSN. Some DSNs started their consultations by checking the blood glucose levels as part of the ‘*consultation opening*’ as can be seen in the following example.

DW_C0014

1. N: So↑(0.2) these are all your blood glucoses↓°(I see) yeah?°
2. P: (0.4) It starts off::(02) (two hours) that was after I have had meal (01) breakfast.
3. N: Yeah.
4. P: Two hours after ()
5. N: But this is breakfast (0, 4) before lunch.
6. P: Well its two hours after↑ sometimes it’s more than that because I () I have my dinner about one o’clock and I’m off↑ to work at half two.
7. N: So↑ you always do it two hours after your meal.
8. P: >Yeah<.
9. D: Don’t you?
- 10.P: Yes(0,2) I did () I did it this↓morning because it’s on a Monday and a Thursday I do it
- 11.N: Right?

As indicated in this extract, the DSN and the patient checked the blood glucose records together in order to find out the daily pattern of the levels; this helped the DSN in deciding what was the best treatment or options for the patient. In Line 6, the patient mentioned that the regular checking of her blood glucose was influenced by her shift work and this could have made it difficult for her to keep checking it at the same time.

Patients’ knowledge of their treatment seemed to be one of the main reasons for them to be referred to DSNs. This fact has influenced the way the DSNs started their

consultation. The following example gives further evidence of how a consultation was started by another DSN.

DW_C0013_1

1. N: So erm (05) Do you know much about Byetta?
2. P: Nothing.
3. N: Nothing at all (01) Ok. Who did you see (01) who started you (02).
4. who you asked you to go to?
5. P: Well: you recommended it to start with.
6. N: Yep.
7. P: And then I went to see (03)=
8. N : = Was it Dr Lee↑ or ↓Dr Rudolf? ↓
9. P: No↓ it was Dr Lee first
10. N: Yep.
11. P: And then it was Dr Rudolf who (01) who prescribed it.
12. N: Ok.
13. P: But↓ I had to have the blood test first.
14. N: Yep (02) yep (02) So (.) they did a blood test first?
15. P: Yes.
16. N: Oh did they::

In the extract, the DSN initiated the consultation by asking about the patient's knowledge concerning Byetta. This patient was prescribed the medication and was previously seen by a few health care professionals, unfortunately, he did not seem to understand about the medication he was taking. This raises a question in terms of how patients need to be prepared and involved in the decision making prior to prescription. In line 4, the patient said that the DSN recommended the medication, however it seems that the nurse could not recall this information. It seemed that the nurse was unaware that a blood test was required, as indicated by her question in line 15. This example suggests the importance of checking patients' health history prior to the consultation. In the interviews data, some DSNs raised the issue of checking the patients' health history and administrative work prior to and after the consultation (this part is explored in the analysis of data interviews with the DSNs).

7.3.2. Core of consultation

Further analysis of the utterances obtained from nurse-patient consultations revealed a range of social actions which highlighted the complexity of diabetes care management that needed addressing in the consultations. There were four main social actions, including assessment of diabetes control or care management, health education and support, review of medication or treatment and collaboration with other health care professionals. The following part explains all of these social actions.

7.3.2.1. Assessing the diabetes control and care management

Issues related to hyperglycaemia are a common; these are often discussed by the DSNs and the patients. The condition affects not only the patients' physical condition, but also their emotional well-being and in many occasions it made an impact on their daily routine, including work. In the following example, the DSN attempted to show her empathy by giving some emotional remarks when addressing the patient's high blood glucose level.

DW_C0012

- 1.N: For most me:n↓ if you used to be very active and you have got a busy job and everything (0, 4), actually (0, 3) it's frustrating! to be feeling (0, 4) so out.
2.P: Yeah.
3.N: Out of energy really (0.6) and that isn't good as it makes you knackered. So you get upset really hh: (0.2) Is that right?
4.P: Yeah?
5.N: Yeah.
6.N: So: you ve' got (in custody yourself, worried about it) and you can't be bothered (0.2) really.
7.P: Yeah.
8.N: and plus you said the other day about your eyes being a bit blurred.
9.P: Yeah.

The utterances showed the active role of the DSN in attempting to ascertain the feelings the patient was experiencing. However, the '*paired action sequences*'

showed imbalance as indicated by the patient's short responses such as 'yeah'. It is not clear whether this meant that he was in agreement with the DSN or that it was, perhaps, just a feeling of being 'guilty'. In line 8, the DSN mentioned another problem the patient had, '*the blurred vision*', which could be connected with hyperglycaemia or long term complications. Again, the patient replied by saying 'yeah'.

7.3.2.2. Reviewing medications/ treatment

The conversation on medications including tablets and insulin was found in all consultations to be observed, apart from one consultation which aimed to review the diet. This gave a strong characteristic to the nurse-patient consultation, where reviewing medication can be an important element. In fact many patients, who are referred either by their GPs or Practice Nurses, generally knew the reasons why they needed to see the DSNs and this could help them to clarify their expectations when attending the consultation.

Prescribing the correct types or doses of insulin could be challenging for the DSNs and in many cases, they arranged for the patients to see them a few times until they could find the most effective way for treatment to be made. The following extract was taken from a consultation which aimed to help a patient (male, 54 years old) who has a problem in controlling his blood glucose levels.

DW_C0012

- 1.N: The thing is as well, like when before you went on the insulin, (0.6) it's been a gradual process.
2.PW: Yeah.
3.N: Even though you would have said only for the past of three weeks or so
4.P: Yeah.
5.N: Its (0.2) you would have noticed
6.PW: Yeah.
7.N: That it's been for longer. So it's not like your blood glucoses were great yesterday (0.4) and today they are not
8.P: No.

9.N: It's like [it's been creeping up] on you.

10.P: [(ya:: ya:: ya::)]

This DSN was trying to inform the patient about how his body had gradually changed to maintain normal blood glucose levels. As seen, the utterances mainly consisted of health education on the changes of the body function in controlling blood glucose. The DSN used the words 'creeping up' perhaps in order to make it easier to understand. The patient responded shortly by using short words such as 'yeah' or 'no'. However, there was an overlap in Line 10 when the patient responded by saying 'ya, ya. ya' while the DSN was still speaking. Perhaps he felt that he had been told enough information by the DSN, about his body and all the remarks from the DSN were related to his '*illness*' or his condition of being '*unfit*'. It seemed challenging for the DSNs to address this issue, but in principle it could be argued that patients need to know about how their body works to enable them to understand about the actions or effects of their medications.

Another challenge of reviewing patients' medication could be related to the ability of the DSNs knowledge of what medication the patients had taken and in many occasions, it was not necessarily only about the patient's diabetic medication. This is not an easy task, particularly when they needed to see new patients. The following example gives an idea of how the DSN carefully found out this information.

DW_C0014

1. N: Just↑ tell me what medica:tion you are on.
2. P: Err(0,1) hang on (0,1) I'm on Metfor:min↓ (0,2) Gli↓clasi:de (0,4) er:: °I can't pronounce it° (0,4) Pioglit (0,2) Pio.
3. N: Oh:↑yeah.
4. P: And I am on (0,4) Simvastatin
5. N: Right that's ok↓ that (0,2) and do you take (01) your taking the (0,4) the ta: the full Metfor:min,
6. P: (02) I take 2 in the mor:ning↓ and 2 at night time (0,2)
7. N: And the same with↓Gliclaside ...

8. P: I take 'em one (01) I take two (01) two before (01) yes two in the morning and two at night time...
9. N: And then one Pioglitazone?
10. P: Yes I take one in the↓mor:ning.yeah,
11. N: Is↑ that 45↓ can you remember?
12. P: I think it is but <I cannot remember now>
13. N: Don't worry↓ () don't worry.

The above extract shows how the DSN collected the medication information from the patient. The DSN spoke carefully, as indicated by the pace of her talk and also by the number of pauses. Line 1 represents the first part of a question- answer adjacency pair which was characterised when the DSN stopped talking and the patient started to speak. This type of turn- taking seems to be common and useful particularly when reviewing medication and showed an effective way in consultation. Sacks (1974) indicated that in order to be systematic, three characteristics should be met: 1) turn-taking occurs, 2) one speaker talking at a time and 3) there is little gap or overlap in which all are evident in this interaction. Lines 5/7/9 confirm the DSN's preference in which she was interested in diabetic tablets and did not consider gaining more information about Pravastatin as a priority in this context.

The medication review is always going hand in hand with the glycaemic status. In the observed consultations, the DSNs checked the blood glucose records and decided what actions were needed. Below is an extract which showed how the blood glucose pattern helped the DSN in deciding the dose of the patient's medication.

DW_C0016

- 1.N: Right↓ Thomas: tell me what (.) what (.) what (.) what dosage are you on: .
- 2.P: (0.1) Eight :(0.4) and twenty-five.
- 3.N: (0.3) Eight↑, eight↑ and eight.
- 4.P: Yeah.
- 5.N: And then: twenty five at night.
- 6.P: Yeah.
- 7.N: Right (0, 8) ((The DSN check the blood glucose profile)) just hhhhhh.
- 8.P: (0.4) Yeah (02) (CAPS)Yeah

- 9.N: I'd better repeat that (hhhhh)
10. P: Yeah I was worse that day↓ (07) but that one that you 'recon (02) and I had that one during the night.
11.N: Hmmm↑.hmmm
12.P: That's the first one I had there during the night.
13.N: (06) What↑ do you think then with these?
14.: They're a bit naughty
15.N: Hhhh What But these are good then aren't they?
16.P: Yes↑
17.N: It's this isn't it? ↓ (05) I think we need a little bit more (03) what do you think.
18.P: It's up to you↑

The conversation seemed to be formed in a question-answer adjacency pair. The 1st line indicated how the DSN initiated the conversation and then the patient gave his response in line 2. In lines 3/5 the DSN's comments showed how '*repair*' is used in order to correct what the patient said, as the patient is not only on eight doses, but this amount three times per day. The following lines included utterances which showed some good and some bad results of the patient's blood glucose readings. On line 13, the DSN tried to get the patient's opinion and confirmation and then she also tried to involve the patient in making decisions in relation to changes to the dosage. However, in line 18, the patient preferred the DSN to make the decision for him. For some patients, particularly elderly, making a decision on their treatment can be difficult to do. In this consultation, the patient was 64 years old and been living with diabetes for seven years, of which three of them were on insulin. However, decision making was still something of an uneasy task to undertake.

In all observed consultations that focused on medication review, the DSNs also addressed the side effects of medication, particularly hypoglycaemia. The following consultation involved a male patient (62 years old) who was new to Byetta (Exenatide) and attended the consultation to discuss about this medication. Byetta is

not insulin but it is given via injection and one of the side effects is hypoglycaemia.

The extract below showed how the DSN started the discussion on this side effect.

DW_C0013_1

1. N: Have you had a (0.4) hypo when your blood glucoses gone low?
2. P: No.
3. N: No? (°a bit weird°) What the call of a hy [po].
4. P: [So], it has been high
5. P: It's never been low.
6. P: Do you↑ know↓ what a hypo calls.
7. P: No.
8. N: What level.
9. P: No.
10. N: It's below four () we class (0.3) as a hypo.
11. P: well I have never had that hh.
12. N: Ok, E::now, do you know what the symptoms are with a hypo↑ and how you might feel?
13. P: Dizzy isn't it?(0,1) and sweaty
14. N: Yeah dizzy()sweaty()
15. P: Yeah
16. N: Bit sha:ky
17. P: Yeah.
18. N: Mmm (0, 8) people often know↑ that they are hung↑ry and need something to eat↓, and often they will look pa:le and clam↑my.

In this interaction, the DSN was interested in making the patient aware of the side effects of Exenatide. Although this patient had been living with diabetes for seven years, surprisingly he did not know about hypoglycaemia. Some utterances, particularly lines 3/6/8/12, form question-answer adjacency pairs which were characterised by questions from the DSN. The patient gave feedbacks by using short answers such as 'no' and 'yeah'. It is not clear whether the patient's lack of interest was related to the fact that he never had hypoglycaemia. This could raise a critical question as to whether this type of information is included, based on the nurse's agenda and not on the basis of the patient's preference. Another question which could be raised is concerning the inclusion of information about the side effects of medication and whether this type of information could be made compulsory and part of the prescription, or if this can be negotiated in order to suit the patient's choices. If

we refer to the NHS patient informed consent, surely it would be vital to give information concerning the advantages and disadvantages of any treatment, including prescribed medication.

7.3.2.3. Health education/ information giving

The patients came to see the DSNs with a variety of conditions and reasons and this fact has helped to clarify the scope of diabetes consultations conducted by DSNs. Health education seemed to be a major component of consultation due to the broad aspects of diabetes care. Some common issues which were addressed in the consultations included sharing information about the personal definition of diabetes and certain tests and life style issues. In the following example, the DSN firstly informed the patient that she had checked the result (by getting an information from another health care professional: Mr. Bernard) (line 1) and then she explained the test result to the patient (as indicated in the rest of the utterances).

DW_B0010_1

1. N: So (0.8) I spoke[↑] to (Mr. Bernard) (0.4) this morning.
2. P: Right (0.6) ya.
3. N: Who's saying that your HbA1c[↓] which is your long term blood test.
4. P: Right (0.4) yes.
5. N: It shows:: what's been happening in the last three months.
6. P: Righ (0.2) yes.
7. N: How[↑] they measure it is.
8. P: Yes.
9. N: They look at the red blood cells.
10. P: Yes.
11. N: And see how much glucose's attached.
12. P: Right yah.
13. N: And then it's %age. So if you didn't have diabetes.
14. P: Yeah?
15. N: each of your red blood cells would have bout four to six % ([).
16. P: [Right
yeah, yeah, yeah
17. N: Collection of glucose, and she said the last blood test you had was seven point four %.
18. P: Right ya.
19. N: This last one now is e[le[↑]vent point one.
20. P: [elevent ya, ya, ya

- 21.N: so that means that if your HbA1c is 11.1 (0.6)
 22.P: Hm hm.

In Line 3, the DSN started mentioning HbA1c and then from this line to 17, she described what HbA1c was. As the patient was new, the DSN might have a '*preference*' or anticipation that she did not know what the test was about. There seemed to be asymmetrical turn-taking within this extract as the majority of the talks were preceded by the DSN. Hutchby (1999) suggests the use of the word '*asymmetry*' in CA analysis to capture any power relations in the analysis of the organisation of interaction. The extract showed that the DSN seemed to set an agenda and this has put an unequal power distribution. The patient responded to the DSN by using short words 'yeah, right or hm hm'. It is not clear whether she was in agreement with the DSN or not. There was a different pattern in line 20 as indicated by an overlap and the patient's words of 'ya, ya, ya' which suggested that the patient might no longer be interested or wanted the DSN to end the topic.

In contrast, the following extract showed how another DSN gave the patient a choice before she started giving information about any diet. She asked the patient whether he would be willing to talk about the topic. In this instance she tried to keep the equal partnership within the information giving process which appeared to work smoothly in this interaction.

DW_C0016

1. N: Ha↑ve you done any carbo-hy:drate.
2. P: No?
3. N: counting.
4. P: No
5. N: Et al::?
6. P: I haven't done it >°I don't ° know how t'do it<
7. N: Right (0,6) °Do do° Would↑ you be interested in just having a chat about it?
7. P: Yeah?

9. N: °Just it° what (01) what car↑bo-hydrate counting is↓ (0.2) is↑(0,4) do you know what >sort of< foo:ds affect your blood glucose?
10. P: No↑
11. N: (0.4) Right
12. P: I eat: anything.
13. N: Yeah I↓know but when you eat them, what what foods do you think that the one put your blood glucose↓ up.
13. P: (0.8) Fatty foods?
14. N: No!

The above extract gives further evidence of the lack of patient knowledge concerning diabetes. This patient had been living with diabetes for seven years and been on insulin for three of these; however he did not have any idea about what type of foods could affect blood glucose. Considering that the patient had been living with the condition for a few years, the DSN carefully asked the question as indicated in lines 1/7. There are some pauses in a few lines, particularly line 9, where the DSN tried to find out a simple way to explain carbohydrate counting. The DSN appeared to use several techniques including paraphrasing to clarify her question (line 13) and in the last line (line 15) she remarked her surprise to the patient's answer which was considered to be unexpected.

The majority of the patients had been living with diabetes for a while, however with the progression of the condition and changes of treatment; they needed regular contacts with the DSNs. In establishing this partnership, the DSNs seemed to use a variety of communication techniques, such as '*reassurance*', to make sure that the patients understood their condition or treatment and gave support, constructive feedbacks or rewards and follow up. The next example gives an illustration on how the DSN reconfirmed the need to change the patient's tablets and doses

DW_C0011_1

1. N: Why we are putting you on a lesser strength to be save.
2. P: Yeah.
3. PW: (Well but that isn't less)
4. N: Well it is 15:: Eer it You will be taking 5↑00 three times a d[ay]

5. PW: [day]
 6. PW: Yes that is gliclazide
 7. N: but you were on 80 (0,5\ you were on 160 (0.3) you were on actually=
 8. PW: =320
 9. N: Yes you were on big dose:: of gliclazide.
 10. PW: Yes but surely (0.4) three 500's that's (0.6)=
 11. N: =1500
 12. PW: Yeah
 13. N: Yeah (0.6) Yeah but it works: differently.
 14. PW: Ah right.
 15. N: It works:: that other one was in the body a lot long:↑er.
 16. PW: Oh right.
 17..N: It is around a lot lo:nger↓ which makes him at a risk of a low blood glucose. Where is this one is shorter acting.

In explaining the action of the new tablets (as indicated in the above example), the DSN showed how the two medications reacted differently. The DSN carefully counted the dose of each tablet and explained how the tablets work within the body. In line 3, the patient's wife argued the point about what the DSN was saying concerning dosage, as she realised that her husband was receiving a higher dosage (1500 mgs per day) but the DSN used the words '*lesser strength*'. In the following utterances, the DSN used the words '*shorter acting*' to reconfirm that the new tablet and dosage were acting differently. The patient's wife eventually understood the differences and in line 14 she responded to the nurse by saying '*Ah right*'. This consultation involved the DSN, the patient and the patient's wife and we cannot see the involvement of the patient in the '*turn-taking*' and it seemed that the patient's wife took the patient's role in arranging the treatment. As highlighted early on, this could create an implication in terms of the ownership of care and the degree of family involvement within the consultation contest, which could be worth further investigation.

The health education given by the DSNs did not only involve sharing or giving of information, but also in the consultations the DSNs demonstrated, for example, how

to use pen devices, metres or carbohydrate counting. This could make the length of the consultation longer and the need for a follow up. The demonstration of insulin pen devices could be so technical in nature; however the DSNs had a responsibility to make sure that the patients were able to inject the insulin correctly. Below is another extract showing an interaction on teaching the insulin injection.

DW_C0011_1

1. N: Now (0.5) Have you decided where you're going to give your injection?
2. P: (0.4) In my tummy.
3. PD: Hehehehe
4. N: In your tummy
5. N: Alright↓(0,2) so: you hang on to that and hold it until its ready↓ (0.2) ok? So you gonna go↑ into your tummy?: with your insulin (0,8) d' you want, d' you want to put your stick d'you want the curtain shuted?
6. P: No no [(it is alright)]
7. N: [No body there::] We can close the curtain if you want.

The turn design in this teaching session showed the ability of the DSN to engage the patient and to guide him step by step on how to inject the insulin. Consistently from line 1 to line 7, she asked questions and considered the patient's preference. This type of approach seemed appropriate in teaching some technical skills, including how to use the insulin pen devices. Apart from teaching this aspect, this DSN also managed to check the patient's blood glucose profile and gave information about hypoglycaemia. It seemed that there were always other sub topics which needed to be included in any consultation led by DSNs. In this case, the main idea was to teach the patient how to use the insulin pen devices/ injection techniques. The sub topics are about blood glucose monitoring and hypoglycaemia.

Any aspects of life style which could impact on the diabetes were explored and discussed in the consultation. These would include driving, smoking, exercise and also alcohol consumption. Unlike blood glucose control, life style issues could be difficult to monitor and the DSNs depended on reports being given by the patients.

One technique which seemed to be utilised, was letting the patients tell their own stories. The following extract gives an example on how the DSN discussed alcohol consumption with the patient.

DW_C0012

- 1.N: Alcohol?
 2.PW: () °you can dream in°
 3.P: No: a pint on Wednesdays↑
 4.N: Right↑
 5.P: (I had bitter at) BBQ last Saturday night (0,4) I only had two (0.2) cans↑ really as didn't want a:nymore:..
 6.N: OK °so°
 7.P: °I don't drink much at all°
 8.N: () your re allowed as a diabetic you re allowed as somebody else to have twenty-one units a week.
 9.P: But if I have a pint↓ (0,2) I always go funny
 10.N: Right
 11.P: >Well hopefully we can get your blood glucose [down< ()]
 12.PW: [()]
 13.P: [()]
 14.P: But if I have a Gin and Tonic I am al:right.
 15.N: There is probably more alcohol (0,2) more glucose in the beer (0.3) than in the spirit (0.3) cause all alcohol is turned into glucose (0.6)
 16.PW: Hh
 17.N: So I don't really know how it works (0,5) but(0,4) beer would probably affect you more.

This interaction happened in the second half of the consultation (total consultation time was 52 minutes) following the discussion on diabetes symptoms, blood glucose levels, insulin, hypos and diet. Compared with these issues, anything related to alcohol seemed to be appropriate but again, these were not on the top of the list to discuss. The turn taking showed opportunities for the patient to tell of his alcohol consumption and although the conversation was short, this made the patient aware of the situation.

7.3.2.4. Collaboration with other health care professionals

The patients who came to see the DSNs were also under the care of other health care professionals. In the majority of consultations, it was noticed that the patients were

also referred to the other health care teams, such as the dieticians, GPs, structured education team or eye clinic. The personal experiences helped the DSNs in deciding which patients needed referral to other health care team members. Occasionally in an urgent situation, the DSNs needed to make a quick decision and to collaborate with others. The extract below is taken from a consultation attended by a young patient (24 years old) with type 1 diabetes who explained her vision problem, which had been gradually decreased, but had suddenly worsened in the last few days.

DW_C0010_6

- 1.N: Right (0,5) Mm:: because what you 're describing to me, I think you need looking at.
- 2.P: Yeah.
- 3.N: And Ee I think we need to try to get hold of somebody so that you can go down to the e↑ye clinic (0.2) for them to have a look at[it] because (0.6)
- 4.P: [Yeah]
- 5.N: Have you a:ny pain?
- 6.P: (0.4) No:.
- 7.N: No, cause, often you don't get a:ny pain::, but you suddenly, this is (0.2) just suddenly happened:, then we need to get you looked at.
- 8.P: Yeah
- 9.N: Mmm have you ever been to Bluehamshire hospital at all↑ (0,4) to the::
- 10.P: Only when I was up for my eyes (0.4) for this eye (0.3) and I have had to wear a patch
- 11.N: Right (0,2) Ok I just need to go and sort this out...as we have to confirm if there is a little bleed at the back of your eye.
- 12.P: Yeah
- 13.N: So: what we would like to do: I can ring your GP

In the first line, the DSN made a summary of what the patient had said to her, and informed the patient that she needed to get someone else to check her eyes urgently, an indication that the patient needed further assessment or management beyond the DSN's role. This patient had received a letter which said that she had maculopathy; however she had not done anything about it and had been waiting for three weeks for eye treatment. In this interaction, the turn design seems to be in a form of '*mother*

and child 'or *'nurturing'* which works well in a situation where the patient did not really bother with the condition.

7.3.3. The closure

Summarising what had been discussed and agreeing the date of the next meeting seemed to be widely accepted by the DSNs at the end of consultations. Another aspect which was included effectively was clarification of the action plans and gave the patients an opportunity to ask questions. Some examples of how the DSNs closed their consultations are explained below.

DW_C0012

- 1.N: Is that all:right?
2.P: Yeah yeah
3.N: So there has been a lot right (°I will see what we can get°) a lot of information today I know, and don't wor:↑ry if you have forgotten some of what have been said, as you can always ring me up again↓ (0.5). But I'll ring you anywa-y tomorrow: and then I'll ring you back on Saturday.

The question the DSN made in line 1 was given after she made a summary of what had been discussed. In her statement she gave an opportunity for the patient to tell her whether everything was clear. In Line 2 the patient confirmed it buy using not only one but two words '*yeah yeah*'. Following these utterances, the DSN then confirmed that she was going to follow up by telephoning the patient. It had been a common practice for the DSNs to ring their patients when they had needed to follow up the patient's progress with their condition or treatment. Similarly, the following extract gives another example of the use of a telephone for following up :

DW_C0016

1. N: Everything↑ok? So I will give you a ring next week
2. N: Ri↓ght: well↑ I'll have a word with the consultant to see what he says, but↑ because we didn't know you from the ↓beginning, we'll see if its wo:rth looking↓into.

3. P: So basically what I want to do is to come off the insulin↓ (02) and go back onto the↓tablets.
4. N: Ok well I will have a word with the consultant and see what happens

In this extract, the DSN gave an opportunity to the patient to ask any questions he might have. She also clarified what she was planning to do (speaking with the consultant). This situation is common when the DSN faces a clinical situation in which they needed an input from other health care professionals including the consultant. It seemed that this patient was worried that his request would not be proceeded with as indicated in line 3, where he restated what he wanted to happen.

7.3.4.Summary

A similar sequence was found in the nurse-patient consultations as indicated by the approaches the DSNs used in the three phases of their consultations. There were also some common social actions within the core of the consultations which were predominantly characterised by discussion concerning the patient's problems and health education. The DSNs also appeared to have similar ways in ending the consultations. Table 18 shows the component of each step and the techniques being used by the nurses.

Phase	Social actions	Utterances	Techniques
Opening	<ul style="list-style-type: none"> • Greetings/ asking signs and symptoms • Stating the main issue/s from previous consultation • Assessing the patient's knowledge or understanding • Looking at the patient's test results or blood glucoses diary 	Examples: <ul style="list-style-type: none"> • ↑How 're ye fe:↓ling(0.2)? • You know we talked about that tablet you were on:: • So erm (05) Do you know much about Byetta? • So↑(0.2) these are all your blood glucoses↓°yeah?° 	<ul style="list-style-type: none"> • Asking questions • Giving a reminder • Checking the patient's understanding • Checking the test results
Core	<ul style="list-style-type: none"> • Assessment of diabetes control or care management • Health education and support • Review of medication or treatment • Collaboration 	<ul style="list-style-type: none"> • Just↑ tell me what medica:tion you are on • Tell me what dosage are you on: • Have you had a (0.4) hypo when your blood glucoses gone low? • Ha↑ve you done any carbo-hy:drate' • Have you decided where you 're going to give your injec:tion? • What we would like to do: I can ring your GP 	<ul style="list-style-type: none"> • Asking questions • Health assessment • Understanding normal/abnormal parameters • Reassurance/ confirmation • Clarification • Empathy • Teaching • Offering help • Checking the patient's knowledge • Involving family • Referral to others
Closure	<ul style="list-style-type: none"> • Summarising what have been discussed • Give the patients an opportunity to ask questions • Action plans • Agree the date of next consultation/ follow up 	<ul style="list-style-type: none"> • So there has been a lot right (°I will see what we can get°) a lot of information today • Everything↑ok? So I will give you a ring next week 	<ul style="list-style-type: none"> • Drawing a conclusion • Asking questions • Care planning • Negotiation • Review progress

Table 18 The common sequence of diabetes nursing consultation

The table above shows the common sequence of the observed consultations and the social actions within each stage. Some examples of utterance and the interaction techniques are also included to give an idea of how interpersonal skills are utilised within each phase of consultation.

Overall, the qualitative phase has shown the experience both from the patients and the DSNs' perspectives have been presented in two negative and positive experience continuums. The patients and DSNs considered that living with diabetes is in general not easy to handle. The daily problems were related to life style adjustment, treatment and psychosocial issues. Both parties shared a similar view on the need to involve other health care professionals, however, the DSNs focused more on their concerns on the diabetes services, whereas the patients more interested in expressing their bad experiences they had from non-diabetic services such as the weight clinic

and the NHS direct. Although support from the team was considered to be good by the DSNs, problems such as the insufficiency of staff' diabetes knowledge and training were also highlighted.

This study has indicated similar goals or outcomes shared by the patients and the DSNs. Both parties considered diabetes control as the key priority. However, there was a discrepancy in the aspect of the degree of self-care/ dependency-independency levels. In general, the patients seemed to expect help from the nurses (passive role) but the nurses felt that the patients should have taken more responsibilities in their care and health (active role).

There were some uncertainties expressed by the DSNs which were mainly linked with the availability of support for professional development and their future due to the changes in diabetes care commissioning. The interviews with the patients also suggested uncertainties with regard to coping mechanism. Although the analysis has given some clues, it does not specifically measure whether the patients' coping strategies were adaptive or maladaptive. The CA gave more information about these aspects, as indicated in some extracts.

The findings from the patients and DSNs' interviews suggested some key interpersonal quality the nurses should have for effective consultation. These findings were confirmed by the results from CA in which the DSNs appeared to use a good range of techniques such as asking questions, giving a confirmation, empathy or drawing a conclusion (Table 18).

Chapter 8 FINDING FROM QUANTITATIVE (QUAN) INVESTIGATION

This quantitative part of the study was conducted to confirm and/or expand the results obtained from the qualitative phase. As discussed in the methodology chapter, the research participants were recruited following a pilot and a modification of the Consultation Quality Index-2 (CQI-2) which was previously designed by Mercer and Howie (2009). This part of the chapter explains the analysis of the quantitative phase of the study (QUAN) SPSS version 16.0 (SPSS Inc.) which was used to analyse the data. It started by describing the backgrounds of the research participants (demography data) and then explained the descriptive analysis of the research variables which included partnership, information giving, length (duration) of consultation, empathy and outcomes. Further analysis in the form of inferential statistics was included in order to measure any associations and correlations. The last analysis involved the use of EVIEWS to ascertain which consultation variables were the most influential.

8.1. Research Participants

The purpose was to recruit 150 participants and following a second attempt, (a reminder), 40 of them completed the questionnaires (n=40). Table 19 below gives details of the participants.

	Frequency (n = 40)	%
Gender		
Male	17	42.5
Female	23	57.5
Age		
18-24	10	10
25-44	37.5	37.5
45-64	30	30
65 and older	25.5	22.5
Ethnic		
White British	26	65
Bangladeshi	5	12
Indian	2	0.8
Other	7	2.8
Language spoken at home		
English	25	62.5
Other	11	27.5
Education		
Primary education	2	5
Secondary education	14	35
Further education	13	25
Higher education	8	30
Marital Status		
Married	5	12.5
Single	27	67.5
Other (Widow, separated, divorced, prefer not to say)		
Types of diabetes		
Type 1	17	42.5
Type 2	18	45
Other	5	12.5
Years of living with diabetes		
Newly diagnosed	3	7.5
Less than one year	3	7.5
1-3 years	5	12.5
4 years and longer	28	70
Treatment		
Diet	2	5
Tablets	14	35
Tablets and insulin	10	25
Insulin	13	32.5

Table 19 Participants' demographic characteristics.

The recruitment managed to attract 40 adult patients in which both male and female participants were nearly equally recruited. It took nearly six months to achieve this total number of participants, which included sending a second reminder to those who did not reply to the initial request. In order to find a wider range of perspectives, the participants were selected from all adult patients with diabetes who were registered at the healthy living centre and had been attending a consultation with the DSNs within the last three month period.

The age of the participants ranged from 18 to 82, and nearly 70% of these were in the 25- 64 years old age group. It seemed that this active working group were more interested in research, compared to the younger group (18-24 years old) and those from the pension age group (65+). This figure matches with the analysis of qualitative data, in which some of the nurses indicated that the younger group was the one they found most challenging.

Apart from considering the age groups, the recruitment attempted to invite participants from a variety of ethnic backgrounds. As shown in the demographic table, 65 % of the respondents' ethnicity was White. This is lower than the total figure of the local area where 86.8 % of the population is white (National Statistics, 2007). This study also attracted people from ethnic minority groups and this data corresponds to another figure which says that nearly 30 cent of the participants spoke languages other than English at home. This figure could have helped in investigating how the consultation needed to be delivered for those who speak languages other than English. Unfortunately, this PhD project was not aimed to look at this issue specifically, although some useful information might be revealed.

Education background was also considered; although the patients' detail on the clinic's IT system did not include the patients' educational background. The respondents who answered to the questionnaires had a variety of educational experiences, from primary to higher education, as explained in the next figure. As mentioned in the figure, the majority of respondents had either secondary or further education. This figure could be useful for estimating the participants' knowledge of diabetes or their ability to engage in self-care management. The participants were also asked to indicate their marital status. The figure indicates that the majority of the respondents were married and the rest were single, divorced or widowed.

Data on the types of diabetes and treatments was also obtained as it could be used to identify any connections between education and consultation experiences. As shown on the table, the types of diabetes of the respondents are nearly equally distributed. This information was also supported by the following figure which explained the different types of treatment the respondents were using. The majority of patients were already on anti-hyperglycaemic drugs either tablets, insulin or a combination of tablets and insulin. The data gives an indication that the majority of the patients were no longer suitable for the diet alone regime. This can be related to the progression of their diabetes, or the time they have been living with the condition. The figure shows that the majority of participants have been living with diabetes more than 4 years. This also indicates that the types of the patients included in this study had good experiences of their diabetes condition, as well as with attending their diabetes consultations.

In order to make the access easier for the participants, a referral system had been agreed locally, so that the patients could see the DSNs either via a referral made by other health care professionals or by self-referral. Although the table does not

include information about referral system. The analysis shows that the majority of the patients were referred to the DSNs by their GPs (62.5 %) and others referred by the Diabetologists (12.5 %) or hospital (12.5 %). Self-referral seems to be used, but only by less than 10% of the respondents. In addition to this, the receptionists were considered by the participants to have an important role in helping them when they need to book or see the DSNs. This gave the information that in general the patients were pleased with the service given by the receptionists.

8.2. Partnership

As mentioned earlier, the majority of the respondents had been living with diabetes for more than 5 years; therefore many of them had known their DSNs for a while, as indicated by 77.5 % respondents who knew the DSNs well or very well and only 2.5 % who did not know their DSNs at all. However, this type of partnership needs to be viewed from a professional or institutional communication context and not from personal relationships.

8.3. Information giving

Due to the complexity of diabetes care, there were many aspects of diabetes which the DSNs needed to share with the patients. Nearly half of the respondents (45 %) said that the information supplied was sufficient, but some of them highlighted that the information was too much (25 %), whereas 10 % of the respondents informed that the information was too little. It is not easy, however, to measure whether the information was too little or too much as different individual patients had different needs for the information.

8.4. Length of consultation

The time allocated for consultations for each patient used to be an issue, particularly for medical consultations. Therefore, this variable was included to measure the length of consultations and how this could relate to their outcome. In this study, due to the impracticality of the DSNs to record the length of each consultation, this statement was included in the questionnaires so that the patients could give information of the time they spent with their DSNs in each consultation.

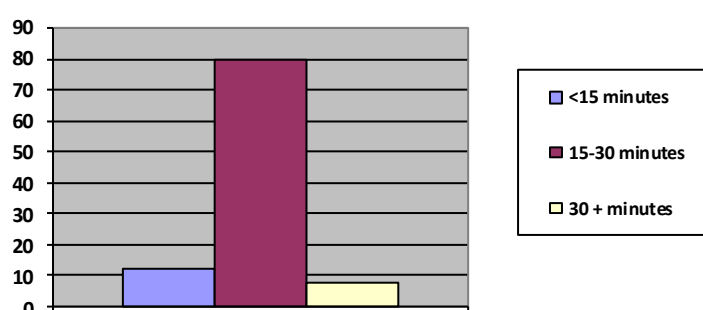


Table 20 Length of consultations.

The above figure indicates that the majority of the patients spent between 15-30 minutes with their DSNs in each consultation. This has indicated that a maximum of 30 minutes should be sufficient for each consultation.

8.5. Empathy

There were 10 statements used to measure empathy using a Likert scale of 6 possible answers: 1 (poor), 2 (fair), 3(good), 4(very good), 5(excellent) and 6(does not apply). Table 20 lists the 10 items to measure empathy. The full questionnaires are included in the Appendix 8.

	Median	Mode
Making you feel at ease	4.0	4.0
Letting you tell your story	4.0	4.0
Really listening	4.0	4.0
Being interested in you as an individual	4.0	4.0
Fully understanding your concern	4.0	5.0
Showing care and compassion	4.0	4.0
Being positive	4.0	4.0
Explaining things clearly	4.0	4.0
Helping you to take control	4.0	4.0
Making a plan of action with you	4.0	5.0

Table 21 The empathetic approach of the DSNs: median and mode rating scores.

The above table shows the mode and median of the sample; two characteristics which are frequently used to measure central tendency illustrate the ability of the DSNs in showing their ability to understand the patients' concerns and to design a plan of action with them. All the scores seem to demonstrate the high rating by the patients.

Further descriptive analysis revealed some elements which 35- 45% of the participants considered to be '*excellent*' were '*letting you tell your story*' (35%), '*being interested in you*' (40%), '*fully understanding of the patients' concerns*' (42.5 %), '*showing care and compassion*' (40 %), '*being positive*' (42.5 %), '*explaining things clearly*' (45 %), '*helping to take control*' (40 %), '*making a plan of action with the patient*' (42.5 %).

Only a small number of participants rated the DSN's empathy as '*fair*' or '*poor*'.

These elements were scored as '*fair*': making you feel at ease (5 %), letting you to tell the story (5 %), listening (5 %), being interested in you (12, 5 %), fully understanding the patient's concerns (2.5%), showing care and compassion (2.5 %),

and explaining things clearly (2.5 %). One participant rated the ability of the DSNs to help them in taking control as '*poor*' (2.5%).

Overall, the patients were considered the DSNs as '*very good*' in demonstrating their empathetic behaviours. However, the Excellency of empathetic approach seems still to be far to reach as less than 45% participants rated the approach as '*excellent*'.

Showing an interest in the patient's concern is another area which needs an improvement.

8.6. Consultation outcome

Six statements were used to measure this variable which included: the ability to cope with life, understanding diabetes, coping with diabetes, keep self-healthy, be confident about self-health and help self. Each of the statement is explained below. The Likert scale used five scores ranging from 1 (not applicable), 2 (less), 3 (same), 4 (better) and 5 (much better).

8.6.1. Coping with life

In terms of the increased ability to cope with life following a consultation with the DSN, the results show some compelling evidence. Only 5 % of the respondents indicated that their ability to cope was much better (score: 5) and 27.5 % felt that their chances were much improved (score:4). Whereas 35 % of them did not find any difference (score: 3) and 32.5 % of the respondents felt less able to cope with life (score: 2). See Table 21 for details of the scores of all six outcome statements). This finding seems in need of further clarification, as the scope of '*life*' is so broad and the statement might have been interpreted differently by the respondents.

	N	Minimum rating	Maximum rating	Mode	Median	Perception decreased (Score = 2) (n)	Perception increased (Score > 3) (n)
Coping with diabetes	40	2.0	5.0	3.0	3.0	13	13
Keeping self healthy	40	1.0	5.0	3.0	3.0	12	14
Confident with personal health	40	1.0	5.0	3.0	3.0	10	14
Self help	40	1.0	5.0	3.0	3.0	10	12
Coping with life	40	2.0	5.0	3.0	3.0	10	13
Understanding diabetes	40	2.0	5.0	3.0	3.0	12	15

Table 21 Six statements to measure the consultation outcome

Table 22 indicates similarity of scores therefore this is not be discussed further in the next part.

8.6.2. Understanding diabetes

The perception of understanding diabetes seemed to vary amongst the respondents. Although 30% of them recognised that their understanding of diabetes had increased (better; score:4), 35 % of them felt that nothing had changed (score:3). Only 5 % indicated an increased understanding (much better) (score:5) and unfortunately the rest of them (30 %) realised that their knowledge had actually decreased. These findings also need further investigation, as was only based on the patients' own perceptions.

8.6.3. Coping with diabetes

This statement is more specific compared to the statement ‘coping with life’.

However, the finding seems similar. Some respondents (27.5 %) indicated their ability to cope with diabetes following the consultation was better (score: 4) and 5 % of them observed they had a much better (score: 5) coping mechanism.

Unfortunately, 42.5 % felt that their coping ability was the same (score:3) and 25 % found out their coping had actually decreased (score:2).

8.6.4. Keeping self healthy

This statement was used to measure how consultation could enhance the ability of the patients to maintain a healthy life style. Again, the findings were not so promising, as nearly half of the respondents (45 %) stated that their ability remained the same (score:3) , whereas 30 % of them found that their ability had been increased (score:4) . There is a similar pattern in term of the number of patients (22.5 %), who found that their ability in keeping healthy was reduced following their consultations (score:2).

8.6.5. Confident about personal health

The feeling of being confident about their own health was not easily explored, particularly for those who suffered from uncontrolled diabetes. It is not surprising that only 27.5 % of patients felt that their confidence was better (score:4) following the consultation, whereas only 5% felt much better (score:5). Similar to other outcome elements, nearly half of the patients (42.5 %) (score:3) found that their confidence was the same before and after the consultation and 20 % even found that there was a decreasing of their confidence following the consultation (score:2).

Unfortunately, this research did not look at which patients tended to have lower personal confidence. Another study might be useful to investigate this aspect further.

8.6.6. Self help

The last part of the consultation which was measured was the ability to self-help.

The responses were not much different to those compared with previous statements.

5% of the patients indicated that their self-help skills were much better (score:5) and 32.5% of them ranked their skills as better (score:4). It is also not clear how 25 % of them noticed a reduction of their ability to self-help (score:2).

8.7. Results of Inferential Statistics

In order to find out any connections between two variables or more, inferential statistics test were used.

8.7.1. Associations

The first test involved measuring associations; this was conducted by looking at cross tabulations and Chi square that looked at the distribution scores between two or more variables to identify any clustering of data and distributions. In this analysis, the patients' biographies data were separately scored to find out any associations with the variables of empathy, outcome, partnership and information giving. The length of consultation was not included in the figure, as it did not have any association with other variables. The following table shows the test outcomes (as indicated by P values).

	Information giving	Partnership	Empathy	Outcome
Gender	P= 0.941	P= 0.836	P=0.712	P= 0.942
Age	P=0.836	P=0.855	P= 0.044	P=0.429
Ethnicity	P=0.390	P=0.822	P=0.016	P=0.327
Education	P=0.197	P=0.598	P=0.904	P=0.0850
Marital status	P=0.077	P=0.078	P=0.017	P=0.676
Type of diabetes	P=0.109	P=0.716	P=0.319	P=0.352
Years of living with diabetes	P=0.848	P=0.578	P=0.632	P=0.068
Types of treatment	P=0.859	P=0.426	P=0.890	P=0.085

Table 22 Statistical probabilities (P) of associations between patients' biographies and information giving, partnership, empathy, outcome. Significant associations are highlighted.

Looking at the P values of each pair in the above figure, weak relationships were found between empathy and age (P= 0.044), ethnicity (P= 0.016) and marital status (P= 0.017). Further measurements of associations between the elements of empathy (10 items) and the elements of outcomes (6 items) showed that all of these elements within each variable is associated with each other at P= 0.01. However there is an issue of co-linearity with those elements (below).

8.7.2. Bivariate Correlations

These tests gave a more convincing result on possible connections between consultation variables: partnership, information giving, empathy, and consultation time and consultation outcome. Parametric correlation was initially applied to measure the association of these variables. The table below shows the correlation of the five variables:

		Partnership	Information giving	Empathy	Consultation time	Consultation outcome
Partnership	Pearson Correlation		.756**	.630**	.427**	.256
	Sig. (2-tailed)		.000	.000	.006	.111
	N		40	40	40	40
Information giving	Pearson Correlation			.644**	.414**	.216
	Sig. (2-tailed)			.000	.008	.181
	N			40	40	40
Empathy	Pearson Correlation				.107	.348*
	Sig. (2-tailed)				.542	.028
	N				35	40
Consultation time	Pearson Correlation				o	-.129
	Sig. (2-tailed)					.442
	N					38

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 23 Correlation of five variables (significant associations are highlighted)

Looking at the table, some evidence can be drawn as follows:

1. There was a positive correlation between partnership and information giving, empathy as well as consultation time
2. Empathy had a positive correlation with partnership, information giving and outcome.
3. Information giving had a positive correlation with partnership, empathy and consultation time.
4. Consultation time had a positive correlation with partnership and information giving.

As a pre-caution, non-parametric test (Spearman's rho) was also performed to compare the above findings. This test is useful to analyse data as it doesn't have the distribution assumptions imposed by parametric tests. Similar findings were obtained from the test, for example there was an association between partnership and empathy (correlation coefficient: = 0.456 or $P = 0.01$), but there was also an association between empathy and outcome (correlation coefficient= 0.319 or $P = 0.005$) and the variable of information giving was also associated with consultation time (correlation coefficient= 0.399 and $P = 0.05$).

To sum up the association and bivariate analyses, the establishment of nurse-patient partnership seems to be influenced by the ability of the DSNs to give information to the patient, to show their empathy as well as to spend sufficient time with the patients. Empathy is likely to promote information giving. Consultation time is likely to promote partnership and information giving.

Although partnership is not significantly associated with consultation outcome, empathy seems to promote this. There are many elements of empathy and whereas together these are not significantly associated with the outcome (Pearson's coefficient r) there is suggestion that two individual elements of empathy are associated with the outcome: the ability of the DSN to listen (really listening) ($P = 0.046$) and 'being interested in the patient as a whole person' ($P = 0.015$).

A caveat is that empathy scores were significantly associated with age, gender and marital status suggesting a potential influence of demography on relationships between empathy and consultation outcome.

8.7.3. The effects of the empathy variables on all six outcome variables

This final statistical analysis was performed using EViews (HIS Global Inc., 2013) software to ascertain which variables were the most influential on outcomes. As noted above, empathy featured most strongly as a factor in outcomes and so in this analysis the ten variables to measure empathy together with six variables related to patient outcomes were examined to identify likely explanatory factors. The data to be used in this study as the explanatory variables were probably highly co-linear as they were all essentially measuring how good a particular nurse was. It is therefore likely that a nurse who performed well in one category would perform well in other categories. This was first checked by looking at the covariance matrix of the measures of nursing quality (Table 25).

	EASE	CARE	EXPLAIN	HELP	INTEREST ED	LISTEN	PLAN	POSITIVE	STORY	UNDERST AND
EASE	0.7	0.6	0.5	0.6	0.5	0.6	0.6	0.5	0.7	0.5
CARE	0.6	0.7	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.5
EXPLAIN	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.5	0.4
HELP	0.6	0.6	0.6	0.9	0.6	0.7	0.7	0.6	0.6	0.5
INTERESTED	0.5	0.5	0.5	0.6	0.7	0.7	0.5	0.5	0.5	0.5
LISTEN	0.6	0.6	0.6	0.7	0.7	0.9	0.7	0.6	0.7	0.6
PLAN	0.6	0.5	0.6	0.7	0.5	0.7	0.9	0.5	0.6	0.6
POSITIVE	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.4
STORY	0.7	0.6	0.5	0.6	0.5	0.7	0.6	0.5	0.8	0.6
UNDERSTAND	0.5	0.5	0.4	0.5	0.5	0.6	0.6	0.4	0.6	0.7

Table 25 EViews Covariance matrix

The covariance coefficient values are all positive and generally above 0.5 which illustrates the likelihood of co-linearity within the data. This means that we should be careful in interpreting any quantitative results from this data as it will be hard to disentangle the separate effects of each variable.

One estimation strategy would have been to accommodate this problem by creating a single outcome variable based on the six individual outcome variables and then to perform an Ordinary Least Squares (OLS) regression of the explanatory (i.e. empathy) variables based on this information. However, there are a number of reasons why this technique is not appropriate for these data:

1. Given the ordinal nature of the data it is never correct to simply combine them.
2. It is well known that OLS is not a consistent estimator when applied to ordinal data (Green,2011; Asteriou and Hall,2011).
3. Combining the 6 measures of outcomes would mean a serious loss of degrees of freedom. With 40 survey responses and 6 measures of outcomes we had 240 degree of freedom to use in estimation. If we combined them together into a single outcome measure then we would have reduced the sample size to 40.

It was therefore decided to select an appropriate estimation strategy in the form of a panel ordinal model such as the ordered probit; this is a maximum likelihood-based technique the background of which is attached in Appendix 9 (extract from the EViews manual). The intuitive idea is that 6 equations are simultaneously estimated, one for each of the output variables. Each equation had the same potential explanatory variables (related to empathy) and so the effects of those on all six outcome variables could be estimated within the test (this was the panel aspect of the estimation) using the ordered logit technique, which specifically takes into account the ordinal nature of the data. Ordinal logit gives the same answer regardless of how the ordered categories (outcomes variables) are set-up.

Variables which had the wrong sign (probably due to the co-linearity identified above) were eliminated. The software then produced the final analysis which is reported in the following table.

Variable	Coefficient	Std. Error	z-Statistic	Prob.
INTERESTED	0.470073	0.227045	2.070393	0.0384
LISTEN	0.026874	0.170408	0.157705	0.8747
UNDERSTAND	0.091188	0.150238	0.606956	0.5439

Table 26 Final quotations of 3 empathy variables

As indicated in the above table, the three variables: interested, listen and understand are all correctly signed, however 'interested' is the only variable which is individually statistically significant. In order to evaluate the potential predictive value of the model EViews software also compares its performance with a simple constant probability forecast. The calculation identified that the model seems to perform reasonably well and so lends support to the analysis.

Overall, the quantitative analysis produced findings that show the participants' demographic characteristics, the level of partnership between the DSNs and the patients, the amount of information from the DSNs, the time spent in the consultations, the level of empathy and the consultation outcomes. The analysis also revealed the association between the variables and in particular which empathy elements were associated with the outcomes. In the next chapter, these quantitative findings are reviewed and integrated with the findings obtained from the qualitative analysis.

Chapter 9 THE INTEGRATION OF QUALITATIVE AND QUANTITATIVE PHASES

The last phase of analysis involved combining or integrating the results obtained from qualitative (QUAL) and quantitative (QUAN) components. As explained in the methodology chapter, there were three sets of QUAL findings from the interviews with the patients (n=7), nurses (n=7) and from the tape-recorded consultations between the patients and the nurses (n=7). The QUAN findings were obtained from a statistical analysis of the completed questionnaires returned by the participants/patients (n=40). This chapter explains how the qualitative and quantitative findings were integrated creatively. In this integration the terms 'patients or nurses' are used more frequently rather than 'the research participants' in order to avoid confusion.

There are a few different methods to integrate findings from the QUAL and QUAN analysis. The technique in this study followed a suggestion from Caracelli and Greene (1993) in which the both data types were consolidated or merged to create new data sets for further analysis. The combining process followed the step by step created by Onwuegbuzie and Teddlie (2003) started from data reduction to data integration (see Chapter 6). It was started by re-reading and re-examining the results from both the QUAL and QUAN analysis. Due to the amount of data obtained, some adjustments were made in integrating the data and it was impossible to transfer all the quantitative data into charts or qualitative data into summaries; one alternative was by allocating a code and number for each finding or theme. The themes from patients' interviews were coded with QualP, the themes from the nurses interviews

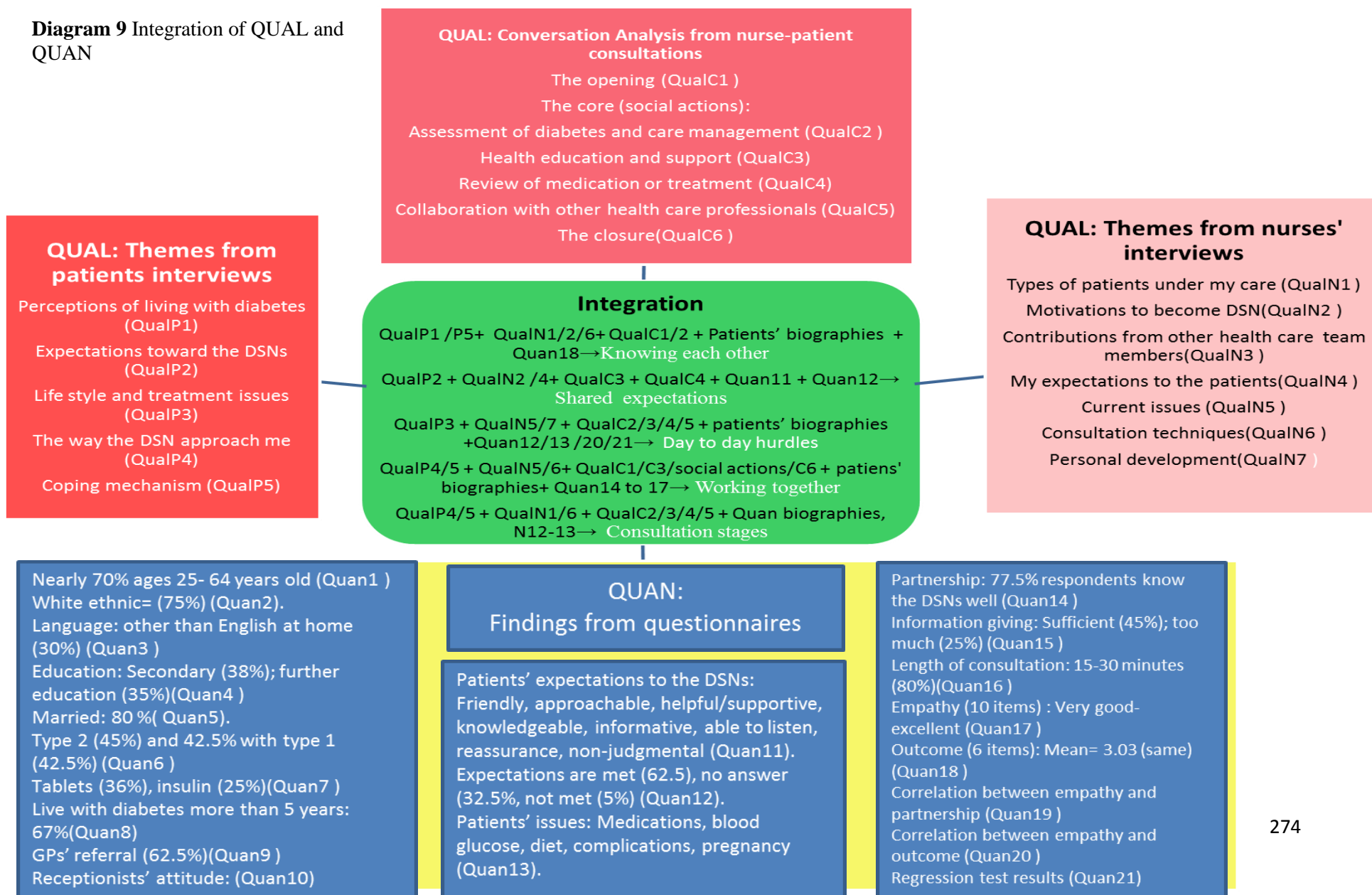
with QualN and the findings from conversation analysis of the nurse-patient consultations were coded as QualC. In addition to this, the statistical results were coded with Quan, followed by numbers. The three groups of QUAN findings consisted of descriptive analysis of the patients' biographies, findings from open ended questions and the last group consisted of variables relating to the consultations. Due to the number of multiple findings, it was impossible to integrate them on a simple L or T-shaped matrix. L-shaped matrix is used to relate two groups of items, whereas T-shaped matrix can be chosen to relate three groups of items (Nancy, 2004), therefore, a matrix diagram consisting of four elements was used (see Diagram 9).

The integrations produced five comprehensive metha themes as indicated below:

- Day to day hurdles
- Knowing each other
- Shared expectations
- Working together
- Consultation stages.

These are explained in sections 9.1 to 9.4 as follows.

Diagram 9 Integration of QUAL and QUAN



9.1.Theme: Day to day hurdles

The daily problems were explained both by the patients and the nurses. The patients were more focusing on how diabetes influenced their life, whereas the nurses expressed issues related to diabetes care management and diabetes consultation.

9.1.1.Patients' daily issues

For the patients, living with diabetes affected their routine almost in every aspect.

The qualitative analysis suggested many sub themes including life style adjustment, taking medications, dealing with complications, having emotional disturbances and issues with using other health care services.

The patients' reports on daily problems such as diet, driving and employment, corresponded to information given by the nurses who observed glycaemic control as the main issue. In the observed consultations, this was also the main area which the nurses and patients discussed together. The statistical data also indicated that maintenance of blood glucose was one of the main issues that patients wished to discuss with the nurses.

Issues related to taking medication were mentioned by the patients. The nurses did not mention this area much, apart from inpatient issues which were normally linked with blood glucose control and insulin adjustment. The data from nurse-patient consultations gave a clearer picture, as six out of seven consultations involved discussions about medication. This was confirmed by the quantitative findings which showed that nearly 25 % of patients indicated that medication was one of their main issues.

The patients felt that adjusting their diet was a difficult task, as they needed to know what they were required to eat and how this could affect their blood glucose levels. In the interviews with the nurses, this issue was not addressed. However, diet was one of the common topics discussed, as indicated by one consultation where the patient only came to see the nurse in order to discuss the matters arising from diet. The statistics showed that the majority of the participants were already on other treatments (diet or insulin) and only 5 % were on only diet control. Whatever treatment the patients received, they felt that diet was an important aspect they would like to discuss with the nurses, as confirmed by the findings from the survey.

Fear of complications such as hypoglycaemia, diabetic ketoacidosis (DKA) and diabetic retinopathy were expressed by the patients. In contrast, the nurses did not raise these issues, although in some of the observed consultations, some complications such as diabetic retinopathy, renal problems and hypoglycaemia were addressed. In the survey, the patients also mentioned this as an issue.

Issues relating to pregnancy were mentioned by some of the nurses. None of the patients interviewed had this issue; therefore they did not mention it when interviewed. Due to the change in the NICE guidelines, antenatal care for women with diabetes became more intense. In the survey, 7 % of participants described it as an issue. One of the patients said that she did not know what would happen after the delivery of her baby, whether she could get diabetes assistance or not. Another patient indicated that she did not get any reply after leaving her message on the DSNs' answering machine.

Issues related to psychological well-being were mentioned by some patients and this included ‘denial’, ‘low motivation’ or mood changes. Similarly, the nurses also recognised similar situations for patients such as stress or worries. Occasionally they had patients who came with anger which made the consultation more difficult to control. The quantitative findings did not specifically find any results of emotional problems; as there were already so many other researches focusing on diabetes, depression and other emotional issues, this aspect was not specifically included in the questionnaires.

Some strategies referring to handling diabetes- related problems were explained by the patients. These included the idea of speaking with other patients or joining a patient’s support group, learning from experiences or making contact with the health care professionals. Unfortunately, not all patients adopted constructive ways to handle their problems as indicated by their ignorance and were not taking their condition seriously. Similar findings were found from the interviews with the nurses, who looked at the issues from the patient’s motivation or their ability to comply to the advice given by the health care professionals; two areas which the DSNs found sometimes too difficult to face .There were patients who did not want to do anything nor contribute to their healthcare and no attempt at making changes were implemented after they left their consultation. As indicated in QUAL chapters, the two age groups which nurses found could be most challenging were the elderly and also young people. A further investigation might be useful to clarify this gap further. The findings from the observation did not give additional information about these two issues, as in general the patients seemed to listen to what was being said by the nurses. However, it was noticed that the majority of the patients were accompanied by a family member when attending their consultation. The nurses in their interviews

also explained that often they needed to involve family members during their consultation with the patients. The statistical data showed that 80 % of the patients were married; this highlighted the fact that it was crucial to involve the family in the consultation and decision making. Overall, the majority of the patients considered the nurses were so empathetic. Unfortunately, the consultation outcome did not reveal any strong findings as there was only 5% of the patients who said that their coping ability following consultation was much improved, 35% could not find any changes and 32.5% had a reduction of their coping ability.

9.1.2.Nurses 'common issues

Regardless of the national or local initiatives in improving diabetes care and consultation, there were still some issues faced by the patients and nurses which needed everyone to continually work together in order to resolve them. Although in general the patients did not complain about any aspects of the consultations conducted by the nurses, there were on occasions a few related problems reported by them and also by the nurses.

9.1.2.1. Diabetes care delivery issues

There were issues reported by the patients in the QUAL phase, such as a poor service given by NHS Direct, the attitude from the staff who ran weight reduction classes, or their preference to be seen by the DSNs when attending the annual reviews instead of the diabetes care technicians. However these issues were not raised by the patients who participated in the QUAN phase. Further investigation was not conducted as this could take the research away from its focus.

One patient mentioned a problem she had with the receptionist and she felt that they were unhelpful. However, the statistical test indicated that the receptionists were helpful and 50% of the patients ranked them as very helpful.

The nurses explained issues from a broader perspective which not only was related to diabetes consultations, but also to diabetes care delivery. There were concerns with regards to diabetes knowledge possessed by the health care professionals. One of the senior DSNs considered that the knowledge of the health care professionals was insufficient. She also observed that the internal education meetings (diabetes link nurses) were inadequate. Patients taking part in the interviews did not indicate the lack of knowledge of other health care professionals but some of them compared consultations with the nurses and with their doctors/ consultants. They found that the consultations held with the nurses were more relaxed and that nurses were more approachable. In the QUAN phase, the issues concerning the lack of knowledge of other staff were not investigated further, as again they were not directly linked with nurse-patient consultations.

Inpatient care was mentioned to have some issues as well. One of which was related to the standard or audit of hypoglycaemia, which according to one nurse had been happening for more than a decade. The data from the patients' interviews and also the surveys showed hypoglycaemia as being an issue. Unfortunately the QUAL phase did not give more information about this complication.

9.1.2.2. Nurse-patient consultation issues

Some issues which had a closer link to diabetes consultation were explained by the nurses. These included patients' stress or depression, language barriers, compliance and lack of interest, and the time allocated for consultation.

The issues related to psychological aspects indicated by the nurses were not reported by the patients in their interviews. However, in the observation of consultations, some of the interaction gave cues about the talks on emotional issues as explained below:

1. N: Out of energy really (0.6) and that isn't good as it makes you knackered. So you get upset really hh: (0.2) Is that right?
2. P: Yeah?
3. N: Yeah.
4. N: So: you re' worried about it (0,2) but not sure what to do
5. P: Yeah.

The QUAN did not give any further information and even in the open questions, the patients did not include them in the problems list they would like to discuss with the nurses. The average empathy score showed that overall the patients were pleased with the approaches used by the nurses.

There were language barriers reported by the nurses, which mainly affected patients who could not speak English. Some of the nurses mentioned that in some of the surgeries which were held in their clinics, they often had consultations with patients from certain ethnic minority groups who spoke very little English, or sometimes spoke none at all. The interaction then tended to be limited and short. In the interviews with the patients, there was only one patient who could not speak English but she came with her daughter who translated for her. She only spent less than 15 minutes for her consultation with the nurse which was shorter than the 30 minutes

allocated slot. The quantitative data gave a useful figure, as mentioned in the early part of this chapter, that nearly 25 % of the participants were from ethnic minority groups and about 30% of these spoke languages other than English at home. This area seems worthwhile for a further investigation.

Compliance and a lack of interest were explained in the interviews with the nurses. Unfortunately, the reasons were not fully understood. A similar finding was also found from the patients' interviews. One of the young patients recognised her non adherence and ignorance to her diabetes care, which according to her could be related to some internal feelings, such as denial. It is difficult to measure compliance quantitatively, normally relying upon by using patient self-reporting and health care professional estimates (LaFleur, Oderda 2004). This needs to be conducted in a separate study , therefore the patients' compliance was not measured in the QUAN phase.

Due to the change in the NICE guidelines related to gestational diabetes, consultations for women with diabetes had become more demanding as the nurses had more patients to see. In the quantitative data, about 5 % of the participants indicated diabetes and pregnancy as their main issues. Apart from this, there was no specific data to confirm the issues surrounding gestational diabetes.

The nurses felt that in general the 30 minutes allocated for consultation was sufficient. Only in certain cases did they spend more time, particularly when dealing with complex issues. The interviews with the patients did not elicit different evidence. Rather than indicating the thirty minute slot, the patients used different words, such as ' being flexible' and they did not think this as an issue. The QUAL

phase found out that nearly 80 % of the patients found that their consultation time lasted between 15 and 30 minutes; therefore 30 minutes seemed sufficient for the majority of the patients.

Dealing with admin was considered to be an issue, as the nurses needed to spend a lot of time arranging the consultation as soon as they received a referral. One of the senior DSNs said that the support received, particularly in the current climate, was insufficient and so they were often faced with a dilemma in terms of who must pay for the cost of the service. The QUAN phase did not look at this issue in more detail as it was not part of the investigation.

9.1. Theme: Knowing each other

Living with chronic conditions including diabetes seemed to be challenging for the patients. The qualitative findings suggested that the journey of ‘*acceptance*’ of their condition could be a longer process. The words such as ‘*I hate*’, ‘*I felt embarrassed*’ or a situation where the patients were not aware of the condition were expressed. Nurses often consulted patients with these characters and apart from dealing with the patients ‘perspectives, they are also required to work with patients from different age groups and types of diabetes. The QUAN findings indicated that nearly 70 % of the participants came from an economically productive age group: 25-64 so living with diabetes could have affected their career prospects as well. The statistics also showed an equal number of people with type 1 (45 %) or type 2 diabetes (42.5 %) and the majority of these were already on medication. This meant that living with diabetes was not an easy position to be in and that is why some of them stated that they did not like living with this condition.

According to some of the nurses, understanding the reasons for the patients seeing them was crucial. Although the majority of them had been referred by their GPs, it was also useful to assess it from the patient's perspectives. In general, however, they came to see the nurses in order to obtain health education or find solutions to any problems they had with managing diabetes.

Keeping the same nurse for each patient as long as possible seemed to be favourable for the patients. In the interviews, some patients even stated that they had been seeing the same nurse for many years since the start of their diagnosis. One of the main benefits in keeping the same doctor or nurse was in saving much of their time. With new doctors and nurses, time would be spent reading through the patient's notes and to determine what the patient's health issues were. The statistical data confirmed this fact, as indicated by the analysis from the EVIEWS which suggested the association of the empathy behaviour particularly 'being interested in you as a whole person' and the patient outcomes. Unfortunately, this research did not explore the views from the nurses' viewpoint, whether they would prefer to keep the same patients for as long as possible, or change their case loads at a specified period of time, though intuitively it seems likely that continuity would be preferred.

9.2. Theme: Shared expectations

The findings from QUAL showed that the main expectation which the participants had concerning the nurses was to obtain sufficient information from them in order to better manage their blood glucose control. Some patients realised that the nurses might not be able to answer all their questions, but they were expecting them to be '*honest*' with their answers.

The expectations towards the DSNs highlighted the importance of the DSNs being knowledgeable and experienced and being able to manage the consultations efficiently. The participants indicated that the DSNs should assist them in controlling their condition, answer their questions and provide sufficient time for consultations. Below are further quotes which show the participants' expectations relating to the DSNs assistance in controlling their conditions. As the majority of the patients felt that they were satisfied with the services given by the nurses, they did not have much to say about their expectations. The survey gave more information about the patients' expectations and all of these were related to interpersonal skills which included being friendly, approachable, helpful/supportive, knowledgeable, ability to listen, reassurance and being non-judgemental.

Compared to the expectations as described by the nurses, there was some contrasting evidence. Some of the nurses expected their patients to understand or be aware of their condition and self-management. They also wanted the patients to have a more sense of 'ownership' and be able to discuss their condition without being told and to start life style changes as discussed.

The statistical data showed 62.5 % of the patients said that their expectations were met and only 5 % strongly felt that they were not met. Unfortunately 32.5 % of them decided not to answer the question. It seemed that there is still a gap somewhere between the expectations from the patients to seek help and advice and the expectations from the nurses, particularly with regards to 'self-awareness', 'ownership' and 'self-management'. It is not clear therefore, whether this 32.5 % of participants could be linked to the met or unmet groups. However, looking at other

data which showed that 30 % of the patients did not have any issues to discuss further with the nurses, this could suggest that their expectations were met or at least there was a narrowing gap between what the patients' expected the nurses to do and what the nurses could offer.

In addition to the above information, the nurses also explained their motivation in working as DSNs which has been considered to be an essential element of any helping relationship (the connection is discussed further in the discussion chapter). Although specifically they did not focus their explanation on diabetes consultation, they highlighted some of the reasons such as their willingness to concentrate in one area of nursing (diabetes). However, as soon as they joined the team, they realised that diabetes itself was a complex issue on which to focus.

9.3. Theme: Working together

This is the richest part of the integration as it gave many facets of the patients' and nurses' consultation experiences, obtained from both qualitative and quantitative investigation. The table below lists the integration which shows how the patients and the nurses established their partnership working.

QUAL			QUAN
Patients' interviews	Nurses' interviews	Consultations	Survey
<ul style="list-style-type: none"> ▪ Being there ▪ Easy to talk, friendly, relax ▪ Caring and understanding ▪ Putting me at ease ▪ Listening ▪ Keep the continuity of contact ▪ Confirming ▪ Information giving 	<ul style="list-style-type: none"> ▪ Follow up ▪ Involving the family/partner ▪ Problem solving/decision making ▪ Self-referral and access ▪ The reasons to see the nurse ▪ Being friendly 	<ul style="list-style-type: none"> ▪ The opening (QualC1) ▪ The core (social actions): Assessment of diabetes and care management (QualC2) Health education and support(QualC3) Review of medication or treatment(QualC4) Collaboration with other health care professionals (QualC5) ▪ The closure(Qual C6) 	<ul style="list-style-type: none"> ▪ Partnership: 77.5 % respondents know the DSNs well (Quan14) ▪ Information giving: Sufficient (45 %); too much (25 %) (Quan15) ▪ Length of consultation: 15-30 minutes (80 %)(Quan16) ▪ Empathy (10 items) : Very good- excellent (Quan17) <ol style="list-style-type: none"> 1. Making you feel at ease (very good:40 %); excellent:37.5 %) 2. Letting you tell your story (very good:37.5 %); excellent:35 %) 3. Really listening (Good:40,5 %); very good:37.5 %) 4. Being interested in you as an individual (very good:45 %); excellent:40 %) 5. Fully understanding your concern (very good: 40 %); excellent: 42, 5 %) 6. Showing care and compassion (very good: 40, 75%); excellent: 40 %) 7. Being positive (very good: 42, 5 %); excellent: 42, 5 %) 8. Explaining things clearly (very good: 45 %); excellent: 45 %) 9. Helping you to take control (very good: 42.5 %); excellent: 40 %) 10. Making a plan action with you (very good: 40 %); excellent: 42, 5 %)

Table 247 The dynamic of diabetes consultation

Table 27 explains details on how the theme ‘working together’ (as indicated in Diagram 9) is obtained from combining the findings from the interviews with the patients and the nurses and also from the consultation observations and statistics. This theme has six sub themes and each of them is explained below.

9.3.1. I am here for you

The availability of the nurses when they were needed was considered to be beneficial by the majority of the patients. Compared to other health care professionals, such as medical doctors, the nurses seemed to be more flexible. Some patients indicated that whenever they needed them, they could be contacted by phone and it was always good to know that someone was there for them. In conjunction with this finding, the nurses mentioned that they followed up the patients’ requirements which were based on the patient’s condition or treatment. Follow up via telephone calls seemed to be effective due to limited time and resources. It was rare for them to make home visits unless the patients had a certain criterion in which they could not for some reason visit the clinics or speak on the phone. Self-referral was another way to enhance patients’ access to the services. The patients could book an appointment to see them without the need to go through their GPs or Practice Nurses. This information was also supported by findings from the observation at the end of consultation (the closure); the nurses then would take time in arranging the next appointment date when the patients needed to be seen. The statistical data however indicated that more than 60 % of the participants came to see the nurses through GP referrals and less than 10 % used the self-referral system. This might be due to the fact that many patients were not aware of the availability of this service.

9.3.2. Let us talk like two friends

The phrase was used by some patients to explain the way the nurses communicated with them. This was one characteristic which they liked as it felt ‘less formal’ and the level in communication was being maintained as two friends, rather than as patient and therapist. Similarly, the nurses also shared a similar idea of their preference of being friendly and less formal. One technique was by allowing the patients to call them by their first name, rather than the more formal approach by using their surname. The quantitative finding supported this aspect and being friendly was indicated as the first character the patients (32 %) expected from the nurses. Another result showed that nearly 80 % of the participants felt that the nurses were very good or excellent in making them feel at ease. In this analysis, “Putting them at ease” merged with being friendly. Both the findings obtained from qualitative and quantitative tests showed that the nurses were able to put the patients in a non-pressuring situation. Even when the patients were unable to achieve certain targets, they avoided putting them under any pressure. The explanations from the nurses gave more information about the way they approached the patients. The nurses realised that patients who came to see them on occasions with certain behavioural attitudes, there would be no other options available to deal with them, apart from using what they call as ‘*a prescriptive approach*’ which worked well when consulting some elderly patients. The survey indicated a good result, as 40 % of the patients considered the ability of the nurses to make them feel at ease as very good and 37.5 % of them as excellent. Another element which can be linked with putting the patient in an easy position is by maintaining a positive attitude. In general, the nurses used this behaviour and as indicated, more than 80 % of patients believed that the nurses were either very (42.5 %) or excellent (42.5 %) in demonstrating this attitude.

9.3.3. Caring and understanding

These statements were used by the patients to describe how the nurses showed an understanding of the patients' condition. The conversation analysis found utterances which demonstrated the caring and understanding behaviour of the nurses. One nurse, for example, used this phrase to show her understanding of the patient's condition:

"For most me:n↓ if you used to be very active and you have got a busy job and everything (0, 4), actually (0, 3) it's frustrating! to be feeling (0, 4) so out".

The ability of nurses to show understanding of their patients' situation was confirmed by the findings from the survey in which 40 % of the participants considered them as being very good and 42.5 % felt that they were excellent.

9.3.4. Listening

Listening was stated as another characteristic that some patients found was being used by the nurses. Although the data from the patients' interviews was limited, this finding was confirmed by the survey in which the patients included listening as essential. More information was given by the nurses in which they used other ways of expression: *'let the patients tell the story'* in addition to *'listening'*. They were aware of the importance in avoiding their own agendas and making the patients feel important and understood. Another quantitative finding also gave stronger evidence to this, as 45.5 % participants said that the nurses were good at listening to their concerns and 37.5 % of them said that they were very good.

9.3.5. Confirming

In many occasions, the patients faced a situation where they were not sure, for example, about their conditions relating to blood test results or certain treatments.

They found that reassurance from the nurses was very useful. One of the participants gave an example that when she felt very down the nurse tried to help her by finding out if her feelings were related to the work situation or caused by diabetes. Nurses used a variety of ways to give confirmation to the patients and according to some of them, using a telephone communication was very useful in addition to the one to one consultation. This was particularly useful for patients who were anxious and needed someone to reassure them when they were on their own. One of the statistic scores indicated that nearly 80 % of the patients felt that their ability to control their condition was improved following their consultations with the nurses. The nurses confirmed that either contact via telephone or by personal follow up consultations might have contributed to this improvement.

9.3.6. Information giving

Sharing information, or giving health education on diabetes, seemed to be the dominant aspect of the consultations. From the patients' point of view, they would like to be aware of not only their own condition, but also about what was to be happening next. From the nurses' perspective, they were aware of their responsibilities to assure the patients that they were fully aware of their condition and kept them informed as to what they could offer. Some nurses stated that their consultations might be not ideal as they needed to cover so much information, which was mainly about life style adjustments. However, due to the availability of information from the internet and other sources, they found that patients were more knowledgeable. The common practice was to advice patients to contact the dietician or to invite them to the structured education programme.

The quantitative findings also mentioned a similar figure and the patients listed many aspects, of which medication was the most common area which they would like to discuss with the nurses (25 %), followed by diet and complications (14 %). Another statistic showed that 45 % of the patients felt that the nurses were sufficient in giving information as required, but 25 % of them considered the information was more than adequate.

Further QUAN analysis conducted to measure the association between each elements of empathy with partnership or consultation outcome produced more information about how they were linked to each other. The elements of empathy '*Really listening*' and '*being interested in you as a whole person*' were found to be the items with a strong association with consultation outcomes as shown by $P=0.046$ and $P=0.015$ (Spearman's rho). In addition, the last analysis confirmed that 'being interested in you' was the only element which statistically significant. In summary, these measurements have given evidence of the importance of the ability of the nurses to listen, to show their interest in the patients as a whole person and being positive in nurse-patient consultations.

9.4. The stages of diabetes nursing consultation

This last integration was made to find the pattern or sequence of nurse-patient consultations. The analysis of interviews with the patients and nurses produced details of their experiences of diabetes consultation. Further findings from conversation analysis gave a clearer description on how the consultations were conducted. In addition to these, the QUAN analysis gave details of the patients' expectations, as well as the process and consultation outcome. All the findings from these different resources were merged to produce the following nurse-patient

consultation stages from pre consultation to post consultation. The stages seemed consisting of a range of perspectives particularly prescriptive, educative, and supportive styles, with some aspects of hermeneutic circle.

Stages	Actions	Resources
Checking the patient's details	<ul style="list-style-type: none"> Accepting the referral Checking the patient's details on the system Making contacts with other health care professionals e.g. GPs Setting up the environment 	QualN1/6 Quan9/10
Uncover any barriers of communication	<ul style="list-style-type: none"> Greetings or self-introduction Making a connection with previous consultations/ test results (if applicable) Clarifying the reasons for consultation 	QualN6 QualC1, QualP4, Quan12/14
Patient focused assessment and interaction	<ul style="list-style-type: none"> Assessment of diabetes and care management Review of medication or treatment Health education and support Collaboration with other health care professionals including referral 	QualP3, QualC2/3/4/5, Quan: biographies (QualP1-8_, Quan13, Quan14-21)
Planning and conclusion	<ul style="list-style-type: none"> Summary of what has been covered Offering a chance to ask questions Arranging the next consultation. 	QUAL: Conversation analysis Interviews with the nurses QUAN: survey
Administration and record keeping	<ul style="list-style-type: none"> Completing the record on the system and other admin duties Follow up 	QUAL: Interviews with the patients

Table 25 The stages of nurse patient consultation

Table 25 explains the main stages of consultation. The qualitative data (interviews with the nurses) gave useful information on how the nurses prepared the consultation and what action they took after the consultation. Another set of qualitative data from conversation analysis produced the process of the consultation, which consisted of

three stages: opening, core and closure. The quantitative data findings complemented the qualitative findings by adding information as to what issues to discuss, which were commonly raised by the patients, as was what were the most relevant of interpersonal techniques used in the consultation.

In the prior consultation phase, as soon as the nurses received a referral, they checked the details of the patient and checked the available amount of time required for the patient to be seen. So booking an appointment and seeing the patient as soon as possible were the main tasks that needed to be completed. The QUAL findings showed that the majority of the patients were referred by their GPs (62.5%) and other patients were referred by hospitals or by themselves (self-referral). These all needed to be checked and for the patients referred by the hospitals; they were normally seen within 24 hours by the Inpatient DSN. The majority of the patients were referred to the DSNs by their GPs (62.5%) and others referred by the Diabetologists (12.5%) or hospital (12.5%). Self-referral seems to be used, but only by less than 10% of the respondents.

The findings from both the interviews with nurses and conversation analysis showed a variety of ways in which the nurses used to welcome or start the consultation. The greetings or opening questions the nurses used depended on whether the patient was new or someone they knew already. Some main characteristics, such as '*informal*' or '*being friendly*', were identified by both the nurses and the patients. The QUAN data showed that more than 67% of the participants had been living with diabetes for more than 5 years. This meant that they had developed a mutual understanding over this period of time. This fact was confirmed by another data which showed that 77.5% of the participants were well known to the nurses. Clarifying the reasons to

see the nurses was mentioned as an essential element, however as the majority of the patients were referred by their GPs (62.5%), they knew the reasons for their consultation, so therefore only when required would the nurses clarify the situation.

The merging of more findings from a variety of analysis tests produced the core phase of consultation. The main four elements of this core stage below were obtained from conversation analysis. They were compared to any relevant findings from interviews and survey.

1. Assessment of diabetes and self-care issues. Hyperglycaemia and problems in controlling blood glucose levels appeared to be the main focus of the seven consultations being observed as well as from the interviews with the nurses. In the interviews and survey, the patients also pointed this out as one of the issues they would like to discuss with the nurses. So often, the assessment was conducted by looking at the blood glucose levels of the patient they recorded prior to attending the consultation. This assessment could take time as both the nurse and the patient needed to look at the pattern together and confirm whether the patient's blood glucose control was 'good' or 'not good'. In one observation, the nurse asked a care technician to check the capillary blood glucose level while both the patient and the nurse were still in the consultation room. This action was taken to assure that they could get the latest level and to link it with the signs and symptoms the patients was showing at the time.
2. Reviewing of the medication and treatment was followed in the majority of observed consultations. This review was performed by the nurses following their assessment of the patient's blood glucose levels. Ideally the patients

would bring the medication when attending their consultation, but in the interviews the nurses said that in many occasions the patients did not supply this information. The findings from QUAN affirmed this results as nearly 95% of the research participants were already either on diet and tablets, insulin or insulin and tablets. Another data showed that about 25% of the participants wanted to include the discussion on medication in their consultation.

3. Both the findings from QUAL and QUAN gave a strong indication of the inclusion of health education and support in the consultation. The health education for the patients covered a broad aspect of diabetes, from sharing information about what is diabetes including the indications, side effects or dosage of the medication, to diabetes complications. The following table explains the issues that were covered.

QUAL			QUAN
Patients interviews	Nurses interviews	Nurse-patient consultation	
<ul style="list-style-type: none"> ▪ Problems with other health care services ▪ Life style adjustment ▪ Complications ▪ Taking tablets ▪ Emotional impacts ▪ Insulin regimes ▪ Blood glucose levels 	<ul style="list-style-type: none"> ▪ Patients' stress or depression ▪ Language barriers ▪ Compliance and lack of interest ▪ Time allocated for consultation 	<ul style="list-style-type: none"> ▪ What is HbA1c ▪ What is Diabetes/how insulin works ▪ Hyperglycaemia ▪ Diet ▪ Tablets ▪ Insulin ▪ Weight ▪ Alcohol ▪ Injection techniques ▪ Hypoglycaemia ▪ Blood glucose monitoring ▪ Complications ▪ Diet 	<ul style="list-style-type: none"> ▪ Medication ▪ Blood glucose ▪ No specific issues ▪ Diet ▪ Complications ▪ Pregnancy

Table 26 Diabetes management and life style issues discussed in the consultations

Comparing the information from both QUAL and QUAN data as indicated above; there were some common issues could be recapped which includes understanding diabetes and its signs and symptoms, medication or treatment, life style, complications and emotional problems. The QUAN added another issue: gestational diabetes which was not mentioned in the previous findings. The nurses seemed to be more interested in understanding the barriers of health education, such as language and compliance, (these barriers are discussed in the early part of this chapter). As indicated in the interviews with the nurses, there seemed to be so much information that needed to be shared with the patients. It is not surprising that the QUAN findings indicated that 45% of the participants felt that the information given to them was sufficient, whereas 25% of the participants said that it was too much.

4. Keeping the collaboration with other health care professionals was considered to be very important by the nurses. The QUAL data, particularly from interviews, gave much information about the way the nurses worked with other health care team members. One observed consultation involved the nurse contacting the patient's GP as well as making the referral. In other consultations, the nurses discussed with the patients the referrals to the dietician. Unfortunately in this case, the patients appeared to be showing less enthusiasm. There were some comments from them which highlighted their negative experiences with services given by other team members and in the interviews some of the patients rejected the idea of being referred to the dietician. There were no further findings from the QUAN analysis which could be linked with this dilemma; therefore a further investigation might be useful.

The utterances from the conversation analysis explained the interaction the nurses made to close the consultation. A similar pattern was found and this included making a summary of the consultation and checking with the patients to assure that everything was clear. The patients were given an opportunity to ask any questions before both the nurse and the patient looked at and agreed to a date when they needed to meet up again. In the interviews, the nurses gave similar information on the way they end the consultation. This finding was linked with somewhat of an element of empathy, for example, '*Making an action plan with you*' which showed a confident figure that 80 % of patients rated as '*excellent*' (42.5 %) and '*very good*' (40%).

There were other tasks the nurses needed to do after the end of the consultation which included updating the electronic patient records and if necessary making contact with other team members. The findings from the interviews with the nurses gave sufficient information about follow up which was to be based on the patient's condition and treatment. For example, for those who were on new insulin, these cases would be followed up much quicker. Unfortunately the consultation outcome of six items was not rated high by the patients with the mean value between 3.07-3.12 which indicated that the majority of the patients did not find much difference with their outcomes following the consultations.

The integration of many aspects of consultation as indicated above has revealed new evidence of the phase and scope of diabetes consultation. It results in a common consultation approach which, in this PhD research, is named as '**CUPPA**' to show the sequence and '**TEA**' to show the scope. **CUPPA** stands for **checking** the patient's detail and the system; **Uncover** any barriers of communication, **Patient**

focused assessment and interaction, **P**lanning and conclusion, **A**dministration and record keeping. **TEA** stands for **T**reatment, **E**ducation and **A**djustment of life style.

It is hoped that by using this mnemonic, it will enhance information retention and help the readers or practitioners in making it easy to remember. It is not the intention to promote tea; however according to the United Kingdom Tea Council (2012), a cup of tea has become an important social life of people in Britain for centuries.

9.5. Summary

In summary, the integration of qualitative and quantitative findings have produced meta themes which comprehensively explain the patients' problems of living with diabetes and how these problems were identified and mutually addressed in nurse-patient consultations, so that positive patients' outcomes could be achieved. The patients' day to day issues had both physical and psychosocial impacts and support from others was essential for them. Unfortunately, the communication/interaction approaches used by some other health care professionals were considered to be inappropriate as perceived by the patients. Similarly, the nurses also had day to day problems particularly when delivering consultation to patients whose English was limited, dealing patients who did not comply with their advice and when running of a busy clinic. Providing support to other staff to enhance the staff's knowledge of diabetes was also problematic which could be caused by the structure of diabetes update sessions in the hospital.

The integration has also demonstrated key principles in making the consultation work, such as by knowing or understanding each other (the patient and the nurse) and sharing common goals to achieve the expected outcomes. Another key principle

is by establishing a shared partnership (working together) not only during the one to one consultation but also outside of the consultation time. Therefore, the system should allow patients' access to the DSNs whenever they were required. The communication techniques which considered being favourable were 'informal', 'caring', 'ability to listen', 'confirming' and 'ability to provide the required information'. Unexpectedly, the integration of the findings has created a common structure of nursing consultation. The mnemonic 'CUPPA TEA' was utilised to highlight the stages and scope of diabetes consultation conducted by the nurses.

Overall, the study has revealed clear findings of the dynamic of consultation as perceived or viewed by the patients and the nurses and as observed by the researcher. The study has also answered the research question (Chapter 1): how is diabetes consultation within a community health care setting experienced by adult patients and by diabetes specialist nurses? The following chapter discuss how the research question has been answered by discussing the four aspects: the views of the adult patients and diabetes specialist nurses concerning the diabetes consultations, the consultation pattern and how the quantitative findings expand or confirm the qualitative results. This discussion is supported by the meta themes or sub-themes from the integration of qualitative and quantitative findings explained in Chapter 9.

Chapter 10 DISCUSSION

This chapter discusses the findings obtained from both QUAL and QUAN analysis particularly by examining how the results have answered the research question. As explained in the introduction, the research question is formulated into four areas and each area is carefully assessed in the following section.

10.1. The experience of the patients in diabetes consultation

The majority of the patients had been living with diabetes for more than five years, some of them still had a feeling of ‘dislike’ to the fact that they suffered from this condition. In the interviews for example, one young patient stated a situation where she had a feeling of ‘*denial*’ or ‘*embarrassment*’. The DSN said that this patient had been away from seeing the nurse for nearly three years and suddenly she had made contact again with many other health problems. This story gives an example of how the feeling of powerlessness could impact not only on the patient’s emotion, but also on her personal capacity as a person to manage her condition in the long run.

Similarly, another patient and his wife stated their frustration and thought that he might be suffering from depression as was noticed by the change in his mood, particularly when the blood glucose levels were uncontrolled.

Emotional impacts of diabetes have been widely studied and one of the most prevalence of emotional problem for people with diabetes is depression (Peyrot, et al., 2005) which as indicated in the literature review, is twice as common compared to people without diabetes (Winkley, 2008, p.92). In practice, many depression screening tools are available, such as Problem Areas in Diabetes Scale/PADS

(Polonsky, et al., 1995), Diabetes Empowerment Scale/DES (Anderson, Funnel and Fizzerard, 2000) and the Diabetes Distress Scale/DDS (Polonsky, et al., 2005). One question that needs to be asked, however, is how to utilise these tools in practice. Yet, formal assessment of emotional problems is not considered to be a standard part of practice in diabetes care in the UK, instead NICE (2008) recommended the need to recognise and treat depression. Following this, in 2009, NICE published guidelines on depression and suggested a comprehensive assessment for anyone with a history of depression or chronic illnesses. Unfortunately, the two questions which have been suggested by NICE (2009) to assess depression seemed to be too general and could lead to misdiagnosis of depression if not being used correctly, hence, TREND UK (2011) required experienced nurses to be competent in assessing mental health problems of people living with diabetes.

Apart from personal perceptions as discussed above, living with diabetes was not easy for the majority of patients as they needed to be familiar with so many health and personal issues and to know how to manage them. The issues which were reported by the patients included hyperglycaemia and how to administer their medications, understanding complications, adjusting their life and accessing health services when needed. The inability to control blood glucose levels was the most common and so often the main reason for the patients to see the nurses. These findings correspond to the 2010/11 Quality Outcomes Framework report within the local PCT covering 27 GP practices, which showed that the diabetes mellitus indicator of 15 GPs (56%) in this region is still below the average in England. One of these is the target to achieve the last HbA1c below 7 in which they only achieved 40.0%. One major critic of the QOF report is that there was no clear explanation on the reasons behind the unmet targets.

Issues on lifestyle adjustments seemed to be a huge concern and covered subjects such as diet, exercise, alcohol, body weight, when and how to take their insulin and even when it would be safe to drive a vehicle. The results of this study indicated that diabetes impacted the whole spectrum of their life and for those who could not control their blood glucose levels; they would have another threat to face: diabetic complications. Numerous studies had been conducted to measure the impacts of lifestyle interventions to reduce the deterioration of people with impaired glucose tolerance, such as the Finish Diabetes Prevention Study (Lindstrom et al, 2006). The findings of this study suggest that lifestyle intervention could reduce diabetes related incidents. Regardless of the evidence concerning the importance of lifestyle interventions, as identified in this PhD research, people who already lived with diabetes still had issues with their lifestyle adjustment.

Feelings of being hopeless or isolated were explained by the patients. It does not matter how long they had been living with diabetes, but these types of feelings could happen to them at any stage of their diabetes illness. These patients mentioned some strategies they used to solve their problems. One patient would have liked to have spoken with other people who lived with the similar condition, or to attend a support group, however these services were not available in her area. Other patients preferred to phone the nurses and obtained their advice as necessary. Another patient felt that she learnt how to manage her condition from her mother who also had diabetes. It seemed that many patients had their own ways of dealing with health and personal issues. Unfortunately, help seeking behaviour patterns of people with diabetes seemed rather untouched, due to the limitation of studies focusing on this area (Jiann and Lu, 2008; Jiang et al, 2009). Therefore there is no sufficient information to

explain how people with diabetes search to improve or manage their conditions, apart from obtaining help from the health care professionals.

This is the reason why the Diabetes NSF reinforces support for people with diabetes to enable them to maintain a healthy lifestyle and manage their diabetes (Diabetes NSF, Standard 3) and recently NICE (2011) published a quality standard for diabetes in adults, consisting of 13 statements. Two of the aims are in order to enhance the quality of life for people with diabetes and to assure that they have a positive experience of care. Similar to NICE, Diabetes UK has released a list of 15 health care essentials in which everyone living in the UK could expect. Some of the statements indicating access to structure education, specialist services and support to anyone with emotional or psychological issues (Diabetes UK, 2011).

Unfortunately, despite of the need of support, poor services from other health care team members or institutions such as the NHS Direct, the weight clinic, the health care assistants and the consultants were reported by the patients. These comments surely cannot represent the views from the patients in general, as not all of the patients in the study raised the question of poor practice. Several attempts have been made to determine how helpful the NHS Direct was found to be for example O’Cathain, Munro, Nicholl and Knowles (2000) conducted a postal survey and they discovered that the majority of callers said that the advice from the nurses from the NHS Direct was helpful (63 %). However, they did not report the comments from the other 37% of the callers. They realised that further qualitative research could be useful in order to clarify some of their unclear findings. Although this PhD research only obtained the information about the NHS Direct from one patient, this has given a qualitative remark as recommended by O Chatain, et al. (2000).

Difficulties arise, however, when the patients tried to access other health care services for example, prejudices or stigmas surrounding obesity continue to exist within obesity clinics and this appears to be difficult for the patients to accept. This situation needs to be addressed seriously, considering that the prevalence of obesity is increasing and its link to diabetes has been well established (Diabetes Health Intelligence and National Diabetes Information Service, 2010).

Patients therefore bring a range of diabetes related issues into consultations. Surprisingly, the findings have demonstrated positive patients' experiences with their consultations. These positive views might be supported by the partnership between the patients and the nurses (knowing each other) and the efforts from the nurses to make them available. Other distinctive interpersonal characteristics might have enhanced the patient's experiences such as being friendly, the ability of the nurses to put the patient at ease, caring, understanding, listening, confirming and informative. These interpersonal aspects corresponded to the concept of '*empathy*' and the ability of the nurses implementations which were reflected in the patients' experiences. A wide range of studies had been conducted in order to measure empathy within the context of medical consultation (Mercer, et al., 2004, 2005; Norfolk, et al., 2007). Unfortunately, there is limited evidence to show how this concept has been used in diabetes care (Llyod, et al., 2007; Heuberger, 2010), and there is no published report showing how the empathy principles could have been implemented by DSNs. Kunyik and Olson (2001) suggested that empathy in nursing could be considered as a communication process and the findings from this PhD research has reconfirmed their claim; in the quantitative analysis, empathy was especially related to demonstrations of interest and positivity by the nurses.

The key problem with analysing empathy within a consultation context is that what element of interpersonal techniques could form an empathetic understanding. The careful analyses of some of the phrases used by the patients have clarified these. For example, '*being friendly*' in a similar context could be interpreted differently by several people. The Conversation analysis revealed that 'being friendly' is usually connected with being '*more relaxed*' and '*less formal*'. However, it is also not easy to find the exact division between formal and non-formal within diabetes consultations and as far as it is concerned, the formal-informal continuum in nurse-patient interaction has never been measured before.

Norfolk, et al. (2007) suggest that in order to establish an empathetic partnership, the therapists needed to have personal empathetic motivation. In this PhD study, when the nurses were asked about their motivation, the majority of them mentioned that they wanted to be focusing on one area which was diabetes and most of them had been working in diabetes care for many years, which highlighted their interest and establishment within this specialisation. However, it was not the objective of this PhD research to examine how empathetic motivation could affect empathy.

Apart from the ability to be friendly, listening was considered to be essential. One participant, for example, explained that by listening to her, the nurse was able to support them to a better degree. This small finding supported what other researchers had previously found, including O'Gara and Fairhurst (2004), who considered listening as an essential skill during a consultation. Miller and Rollnick (2002, p.27) proposed what they called as skilful '*reflective listening*' as part of empathy.

However, it was impossible to ask the patients in this research whether the listening

of the nurses were reflected in nature. Other researchers have developed tools to measure listening skills, such as the Active Listening Observation Scale (ALOS) which was designed by Fassaert, Dulmen, Schellevis and Bensin (2007) to measure the listening skills of GPs. This might be useful in trying to measure listening skills of nurses in a separate research project, so that the observation from the patients can be tested.

Being informative was mentioned as another characteristic the patients observed from the nurses. In addition to this, the reading materials such as booklets to take home which were given to them were useful. This technique was related to the role of the diabetes nurses in which they were expected to be able to promote understanding and awareness of diabetes and to help people with diabetes to be confident in order to self-manage and be as independent as possible (Diabetes Nursing Strategy Group, 2005). This is also linked to Standard 3 of the National Service Framework (Department of Health, 2001) which says that all people with diabetes should receive support to maintain a healthy lifestyle.

Compared to medical consultation or those delivered by other health care professionals, the consultation with the nurses were found to be flexible. The patients said that they could negotiate their time easier with the nurses. Nurses were also more accessible as they shared their landline or mobile numbers with the patients. These patients were so welcoming to this type of services, as they said they could contact the nurses, mainly by phone, when they needed help or certain information. The use of telephone consultation has been widely studied, for example, Evans, et al. (2012) investigated the outcome of the Diabetes Specialist Nurse telemedicine advice service. 5703 telephone consultations were recorded and the main outcome

was a reduction of acute hospital admission and an increase in on going diabetes care. The findings seemed promising, although this study had some limitations as to the outcomes which might have resulted from other interventions that were not controlled in the study.

10.2 The diabetes specialist nurses' experience in delivering diabetes consultation

Compared to the patients, the nurses gave more information about their experiences. Apart from positive experiences, they also explained some issues in relation to diabetes care and the consultation. The following section discusses how the nurses experienced these consultations.

The nurses had a complex workload as they could expect to see any patients with diabetes who came from many different backgrounds. Although each of them had a certain interest or type of patients, they could also be expected to see other types of patients whose their regular DSN was unavailable, with the exception of paediatric diabetes specialist nurses who only worked with children. These patients could suffer from type 2, type 1, gestational diabetes, in-patients or emergencies. Although the majority of the patients were seen at their GP surgeries by the DSNs, many of them were also seen at the centre where this study was conducted. According to the figure from the National Diabetes Audit (NDA 2009/10), the total number of the patients registered at the PCT was 7245. From this number, 662 of them had type 1 (9.13%) and a large number, 5561 (76.75%) were with type 2 and the rest had other types including MODY. In this PhD study, both types of diabetes were recruited.

In contrast to the problems concerning diabetes self-care management that the patients raised, the nurses focused more on barriers they faced, not only about diabetes consultation but also care delivery. According to the nurses, depression or stress seemed to be common in practice; other psychological conditions could be in the form of worries, denial or anger. These conditions could affect their behaviour when attending their consultation as they could become rude to the nurses and reduced their ability to manage their condition. NICE (2009) stated that depression is approximately two or three times more common in people with a chronic health problem including diabetes. However, the mechanism or linkage between diabetes and depression is so far not really clear. Egede and Ellis (2010) conducted a systematic review pointing out that for those who were suffering from depression there was a 60 % increase of type 2 diabetes. In contrast type 2 diabetes was only associated with a moderate of 15 % risk of depression. This figure seems to give a clearer indication compared to those stated by NICE (2009). Somehow, Egede and Ellis (2010) have suggested further studies to measure the relationship between depression and diabetes. In general, there is an agreement that these two comorbid conditions needs to be seriously managed, therefore, NICE (2009) recommended early assessment and treatment for people with depression and a chronic condition using the stepped-care model, which consisted of four phases, depending on how severe the condition.

Similar to the emotional problems, language was reported to be an issue as well, particularly when consulting patients from certain ethnic minority groups who could not speak English. In this area, the situation was different from one area to another. In some surgeries, there were substantial populations of Eastern Europeans, whereas in other surgeries, they had other ethnic groups who hardly spoke English. This

information, given by the nurses, is in line with the Diabetes Community Health Profile from YHPHO (2011). It showed that there are now nearly 6% of people aged 40 or older from the Asian community, whereas in England the number is below 5%. In this area, around 2% of the people aged 40 or older came from the Black communities, lower than the national figure in England. It is recognised that people from the Asian and Black communities have a higher risk of diabetes and they tend to develop it at a younger age.

Due to the changes of NICE guidelines on gestational diabetes in which they reduced the GTT from over 9 mmol/l to over 7.8 mmol/l, the team had more pregnant women on their case load. This area became a big issue as the nurses started to have more pregnant women to see. According to NICE (2008), the number of women who gave birth in England and Wales is approximately 650.000 per year and 2-5% of these were women with diabetes. The nurses indicated that they had nearly 100 pregnant women who needed monitoring with their blood glucose levels and other diabetes related conditions during their pregnancies; a big case load which could not be managed only by one DSN.

Regardless of the advice given to the patients, some of them had problems in complying with the treatment regimes. Yet, the reasons for non-compliance was not clear; the nurses had noticed two groups of patients, elderly and young people, which they found had difficulty in dealing with this problem. One of the reasons identified was related to the use of multi-factorial conditions and complex medications. Studies focusing on compliance in the elderly and young people seemed rather limited.

Micolli, Giuseppe and Stefanno (2011) suggested that the non-compliance amongst elderly patients were related to multidrug treatment they commonly had. In order to

construct a procedure to measure compliance, Fernandes, et al. (2011) examined the factor structure and internal consistency of a modified Chronic Disease Compliance Instrument (CDCI) in their study of adolescence with diabetes. They found the Cronbach's alpha internal consistency reliabilities of the CDCI-Diabetes scales ranged from 0.68–0.81. The result achieved the criterion of 0.70 as the minimum acceptable Cronbach's alpha coefficient reliability (Burns and Grove 1997).

In general the nurses felt that 30 minutes for each consultation was sufficient. Compared to the medical consultations with the average of 15 minutes allocated for each patient, the consultation time for the nurses should allow them to include other aspects such as health education. The findings from conversation analysis support the results reported by Mercer and Howie (2009) who highlighted the tendency of certain patients, particularly those from the ethnic minorities, who spend less time in consultation. It should be noted however, that only one patient from an ethnic minority group was observed in this PhD study. The nurses considered that consultation timing was no longer an issue but dealing with the administrative tasks once they received a referral was often problematic. It can be argued that this type of job should be done by an administrator or office clerk to enable them to focus more on patients.

The findings from the nurses' interviews explained the communication or interpersonal techniques the nurses used. The concept of 'being there' was found to be part of the current consultation environment. This concept is related to making the services from the nurses more accessible. With self-referral in place, the patients could book an appointment to see the nurses when it was required. The nurses also gave their mobile phone numbers and arranged the next consultation meeting at the

end of their interactions. Although most GP surgeries included specialist services, they had their own method of a booking system. The trend is to allow patients to select the date, time and which hospital or specialist services they would like to be made available by using an online system. This might include the diabetes specialist services. At this local level, these nurses had actually initiated their flexibility in allowing the patients to book an appointment with them in conjunction with what was implemented nationally.

Characteristics of communication, including '*being friendly*' and '*less formal*' explained by the nurses, have confirmed that there are some generic interpersonal qualities which could be implemented in one to one interactions. Hastings (2006) on his Consultation Assessment and Improvement Instrument for Nurses (CAIIN) included a statement *which 'Maintains friendly but professional relationships with patients'* and the findings from this research matches with his suggestion. Similarly, the findings from the patients' interviews also reported this element, but again the question still remains the same in terms of how the boundary between formality and informality could be clearly defined.

More specific techniques, such as listening and allowing the patient to tell their own story, problem solving and decision making, confirming, information giving and involving the family, clarified what were commonly included in the consultation. Bickly and Szilagyi (2003) used similar phrases '*inviting the patient's story*' which involved giving a chance for the patient to explain their main concerns to the therapist at the early stages of consultation. In medical consultation, this technique is used by the doctor when generating or testing diagnostic. However, in nursing this could be used to expand or clarify what was already known.

In conducting the consultation, the nurses always engaged in problem solving and decision making. The findings suggested a range of problems the nurses encountered, from helping the patients understanding their diabetes to complex treatment such as insulin doses adjustment. This issue was usually linked with the need to check the patients' blood glucose levels and to review their medications. Once they were on insulin, they needed to be aware of any side effects, including hypoglycaemia. Other issues were also raised in relation to life style modifications, such as diet and exercise and understanding any complications.

Hastings (2006) explained the cognitive activities involved in problem solving which started by gaining information from the patient, analytically interpret the information and deciding on what actions are needed. This step by step approach seems similar to the nursing process however, in the consultations the nurses did not strictly follow the nursing process which was considered as a general model of reasoning (Dowie, 1988). The findings did not give much information about how the nurses engaged in problem solving. In contrast, there were more findings on the decision making process, for example in cases of complex issues where they needed to bring the cases to the consultants or to the diabetes team meeting, so that decisions could be made. The findings suggested that the nurses used both rational and phenomenological perspectives (Tunner, 1997) in their decision making. They were aware of the national guidelines, or local protocols, in order to guide their rational thinking but also utilised a broader perspective, mainly from their personal experiences when dealing with complex issues.

Patients tended to bring a family with them to the consultation. The nurses felt that involving the family in the consultation was usually useful, particularly if the patient needed help from family members or carers in managing their diabetes. Some studies have been completed to investigate the contributions of family members to patient's diabetes care (Anderson, 2007; Butler, et al., 2002; Hsin, et al., 2010; Rayman, et al., 2005 and Dashiff, et al., 2009) which was based on an attachment theory that tried to measure the association between the maternal separation anxiety (when the children were 11-15 years of age) with cognitive autonomy and self-care. They found that the separation contributed to cognitive autonomy, which was associated with self-care. Despite of this, some interest was shown in understanding the relationship between parenting and the ability to self-care in young people. The majority of these studies focused on children, but in reality adult patients also needed support from their family. Therefore, further studies are required to explore the family contributions to the patient's care for all age groups.

Norfolk, et al. (2007) suggested that in order to establish an empathetic partnership, the therapists need to have a personal empathetic motivation. When the nurses were asked about their motivation, the majority of them mentioned that they wanted to focus on one area, which was diabetes and most of them had been working in diabetes care for many years, which highlighted their interest and establishment within this specialisation. However, it was not the objective of this PhD research to examine how empathetic motivation could affect empathy.

One aspect that the nurses discussed a lot was '*following up care*', perhaps because the majority of the patients who were attending the consultations had been under their care for a long time. Using the telephone as a medium to contact or follow up

the patients was routinely used in their daily communication. A good range of research studies have been conducted to measure the benefits of telephone consultation (not necessarily focusing on diabetes). For example, the studies from Kim and Oh (2003) and Kruger, et al. (2003) suggested the benefits of using electronic communication in consultation. The findings from the current research supported their argument, as the majority of the nurses said that using the telephone was a more efficient and quicker way rather than asking the patients to visit the clinic.

Due to the complexity of diabetes care management, the nurses needed to maintain their close working relationship with other health care team members. They recognised the positive contribution of each member from the diabetes care technician to the consultants. However, they also identified many issues relating to the shared knowledge of diabetes and the team perceptions on diabetes standards and decision making. This has supplied information referring to team working within the diabetes care team and other members outside of the team. In the UK, five aspects of team functioning were proposed by Borill (2003) on behalf of the Health at work in the NHS team, which included the clarification of objectives, participating, focusing on quality, supporting for innovation and reflexivity. The comments from the nurses in this research indirectly clarified two functions on how they shared their objectives and participated in the diabetes care.

10.3 . The consultation sequence and scope

The findings from Conversation analysis (CA) showed how the nurses and the patients were interacting with each other in one to one consultations. In sharing the diabetes information, it appears that the personal characteristics of the patients and

the nurses seemed to influence the way they maintain their interactions either by adopting an active or passive acquisition of information. Every nurse had their own style and the recorded conversation (utterances) indicated the pattern or sequence of the consultations as well as the common issues which were addressed in the consultation.

Examining the reasons for attending the diabetes consultations , the dynamic of nurse-patient interactions and the consultation scope, the findings have answered a critical question from Hastings and Redsell (2006, p6) as explained in Chapter 5, in which they were unsure whether nurse-patient meetings should be classed as consultations. The findings have confirmed that the interactions can be named as ‘consultations’. The results also support the Standards of Proficiency for Nurse and Midwife Prescribers (NMC, 2006) which identified some key elements such as history-taking, diagnosis, decision-making, therapy and referral (NMC, 2006, p.p. 6 and 19).

The **CUPPA TEA** mnemonic (discussed in Chapter 9 has clarified the common consultation stages and the scope of nursing consultation. In addition to this, the DSNs had tasks they needed to complete before and at the end of consultations. The following section discusses the three phases of consultation: the opening, the core and the closure.

The techniques the nurses selected in opening their consultation mainly depended on whether the patient was new or someone who had attended consultations previously. The greetings were informal and the tasks which the nurses performed included clarifying certain results with the patients, confirming the signs and symptoms, or

referring to what was agreed to in the previous consultation. Some of the consultations were asymmetric, but in general the nurses commonly used a hermeneutic circle (Little, 1995), which was characterised by the attempts from the nurses to listen to the patients and trying to understand the information from the patients (Usherwood, 1999, pp.61- 72). Another distinctive element of the opening phase was the approaches the nurses used to clarify their tasks, for example these could be related to a variety of issues such as discussion about diet, checking the blood glucose patterns or reviewing the patient's medication. Pendleton, et al. (2003, p48) indicated tasks which needed to be clearly defined as part of an effective consultation. The nurses demonstrated their techniques and in some of the observed consultations, clarifying the tasks helped them to focus the consultation. The nurses' attempts to maintain their partnership and involving the patients in care planning as recommended by Morrison and Weston (2006) were also demonstrated.

The observation has found four essential areas of consultations which included assessment of diabetes control or care management, health education and support, review of medication or treatment and collaboration with other health care professionals have clarified what can be claimed as the main scopes of nurse-patient consultation.

In general the nurses used focused assessment in the early phases of their consultation. This could be in the form of reconfirming or expanding the patient's 'signs and symptoms', checking their blood glucose patterns, the patients' diet and knowledge or other areas which are normally linked with reasons to see the nurses. This stage seems to be similar to the 2nd stage of the Calgary-Cambridge guide to medical consultation (Kurtz and Silverman, 1996, 1998), in which the doctor gained

relevant information from the patient in order to establish a diagnosis. The main difference was that in these consultations, the nurses seemed to be focusing on the main issue which brought the patient to make the appointment. Some of the physical assessments were conducted, such as checking the blood glucose levels, ketones, or injection areas. Again, the physical assessment was more focused and only conducted when in the interaction they found the reasons for this to be done. This assessment helped the nurses to make their clinical decisions in term of what type of health education and interventions the patient needed.

Health education and support was given following the patient's assessment. There were some common approaches such as by assessing the patient's knowledge or what they already knew, explaining the information in a way the patient could understand, looking at the charts or records, demonstration and re-demonstration of injection techniques. This element of nursing consultation gave another characteristic which was different to the medical consultation. Usherwood (1999, pp.61- 72), stated that consultations between the patient and doctor in general practice was more focused on diagnosis and assessment, whereas consultation by nurses was more focused on empowering the patient and health education. As indicated early in this chapter, this scope is related to the implementation of Diabetes NSF (Standard 3) which is focusing on the empowerment and supporting the patient in maintaining a healthy lifestyle. The health education given by the nurses also related to other standards as well including Standards 4,10,11, 12 which addressed the clinical care of adults with diabetes and the prevention/ management of long term complications. Helping the patient to enhance their self-care ability was also related to the diabetes competency framework (Competency 5.2: promoting self-care), in which the DSNs

are expected to be knowledgeable and able to facilitate lifestyle adjustments in response to the patient's changes in their diabetes.

Reviewing medication, or other treatment, had become part of the DSNs role and was an essential scope of the consultation. The majority of the consultations recorded involved medication and the reviewing of either tablets or insulin. The NMC (2006) set up the standards of proficiency for Nurse and Midwifery Prescribers which highlighted the requirements and monitoring of nurse prescribers. The findings from this PhD research supported the previous report published by the Department of Health (2008) which mentions some of the benefits the patients gained from nurse prescribers. The results also provided further evidence that the nurse prescribing had been well established within the clinical settings, particularly diabetes as previously reported by Courtenary and Carey (2007).

Collaboration with other health care team members was maintained by the nurses. During the consultation, it was noticed that the nurses made a referral to other health care professionals as part of their collaborative work. The common referrals they made were to the dieticians, GPs, the consultants or the hospital. The Diabetes Competency Framework (TREND-UK, 2011) explained clearly the need to understand the nurses' scope of practice and referral in relation to pharmacological interventions: *"If a registered non-medical prescriber, prescribe medications, as required, within own competencies and scope of practice (Competency 5.7). Describe circumstances in which insulin use might be initiated or altered and make appropriate referral (Competency 5.8)"* These statements give a clear boundary to the nurses' scope of practice and an indication on when they needed to collaborate with others.

At the end of the consultations, the nurses performed some common tasks including making a summary of their consultation, clarifying the agreed action plan and arranging the date of the next consultation if needed. This stage of consultation seems similar to the last phase of Calgary- Cambridge consultation structure (Kurtz and Silverman, 1996, 1998) as well as the structure from Hastings (2006). The findings from the study had similar elements and seemed to support the comments from these authors. In diabetes care, the planning was promoted as part of the continuation of diabetes care and in any consultation, particularly since the publication of the diabetes care planning guidelines from the Department of Health (DH, 2006). The findings confirmed how the nurses incorporated their action plan in the consultations.

Examining the above stages, it appears that the DSNs adopted a range of different models of consultations, although in their interviews they did not indicate a specific model or claim any model was used. It could be due to the fact that there was no specific nursing consultation model available.

10.4 . The contribution of the quantitative findings in confirming or expanding the qualitative results

In mixed methods study, one of the common arguments is on how each method can confirm or expand each other (Hesse-Biber, 2010). As explained in the methodology (Chapter 6), this PhD research utilised an exploratory design in which according to Creswell (2006), QUAN can be conducted to expand or confirm the findings from QUAL phase. The quantitative phase of this PhD project has produced many findings which confirmed or expanded the results from the qualitative stage. For

example, the biographies of the participants (patients), which were not available from the qualitative phase, gave a broader perspective of understanding the patients' backgrounds and how these could affect their views or experiences. The Partnership between the nurses and the patients which could not be measured by qualitative investigation was also confirmed by the quantitative investigation which showed that 77.5 % of the patients stated that they knew the nurses very well. The quantitative results have also shown more information on the consultation outcomes and association among key variables of consultation, which could not be measured qualitatively. There is a positive correlation between partnership and information giving, empathy as well as consultation time. The findings indicated that the more complex the treatment the patients had, the less consultation outcomes they perceived. Unfortunately, this PhD research did not identify the reasons behind this phenomenon. The findings suggested that patients with a more formal education would not always gain more positive outcomes compared to those with less formal education, however those with a higher education background perceived more of a positive attitude.

This study set out to investigate the patients' and nurses' experiences with their diabetes consultations. The research has shown that diabetes consultation is a complex and an integral part of diabetes care management. The findings have indicated not only the experiences from the patients and the nurses, but also issues surrounding diabetes consultation and care management. The research findings as explained above have given clear evidence on the appropriate selection of mixed methods, particularly the sequential exploratory design to guide the study. The chosen method supports the previous researchers (Sandelowski, 2000 and Andrew

and Halcomb, 2009) who suggest the use of mixed methods to investigate the complexity of human phenomena.

10.5. Methodological consideration

Despite the findings which have answered the research questions, some methodological challenges were faced throughout the research journey. This section discusses the four main challenges encountered: 1). managing the multi-methods in the first (QUAL) phase; 2). transition from QUAL to QUAN; 3). recruiting participants to complete questionnaires and 4). integration of QUAL and QUAN.

Designing and implementing the first phase of the study was very time consuming. This is due to the multi-methods being used in this stage. Following the development of the interview schedules for the patients and the DSNs, a problem arose as to how the data would be analysed. After comparing different methods, thematic analysis was selected (Braun and Clarke 2006) as this method would allow analysis without the need to attach the process to a certain qualitative methodology such as phenomenology, grounded theory or ethnography (Howitt and Cramer, 2010).

Another challenge was experienced when it came into the decision on what tools were the most appropriate to observe the consultations and how the data would be analysed. In response to the rejection on the use of videotape recorders by the NHS ethics committee, it was decided to use tape recorders. Conversation analysis was compared with discourse analysis and the first one was selected as the method would allow examining the interaction between the patients and the DSNs and the structure or sequence of this interaction (Hutchby and Wooffitt, 2010, p.20). The key problem with this phase was the time spent to collect and analyse the data. The CA analysis was time consuming as the transcription needed to be presented by including coding

common to conversation analysis (Jefferson, 2005). In order to do this, the records needed to be listened too repeatedly and rechecked by other researchers until it was felt that all the codings were included for analysis.

Following the analysis of qualitative data, a different methodological challenge appeared. This is the time which Creswell and Plano Clark (2011) suggested as a transition phase between qualitative and quantitative investigation. As previously explained, during this period the findings from the quantitative investigation were closely reviewed and the questionnaires for the quantitative investigation were developed and tested. The challenge was also linked with the epistemological mode changes; moving from being constructive (maintaining closeness with the research participants) during the qualitative data collection and analysis to being objective (keeping a distance from the participants).

The integration of the findings from QUAL and QUAN phases seemed to be another issue. This could be related to the limited examples from previous researchers on how the findings obtained from qualitative and quantitative investigations could be merged. Dubois and Loiselle (2009) suggested the use of matrix to integrate qualitative and quantitative data. However, it was impossible to include all relevant findings in one chart/ matrix. Therefore, following an allocation of a code to all identified findings (themes or numbers); a matrix diagram consisting of findings from patient's and nurses' interviews, nurse-patient consultations and patients' survey was used. The techniques used in this PhD study have given another practical confirmation on the benefit of enhancing research findings by utilising both qualitative and quantitative data.

Chapter 11 CONCLUSIONS

11.1. Research objectives, summary of findings and conclusion

The objectives of the study were to investigate the patients' and DSNs' experiences with their diabetes consultations as well as to identify the consultation pattern.

The findings have revealed that living with diabetes was challenging for the majority of the patients as they needed to face with many health and life issues including hyperglycaemia, taking medications, dealing with their complications and adjusting life styles. Many negative experiences when they saw other health care professionals were reported by some patients but their experiences in attending their consultations with the DSNs were in general very positive. Some personal characteristics which have been well known since the 1950's for their influences in interpersonal skills as indicated in the psychodynamic nursing (Peplau, 1952) and psychotherapy (Rogers, 1957) such as being friendly, informal, flexible and being available when needed still appeared to be relevant to the current nurse-patient relationship. These personal characteristics made the consultations more welcoming compared to the consultations delivered by other health care professionals.

Similarly, the nurses considered their role in delivering consultation as being rewarding. All the nurses seemed confident in establishing their interrelationship with the patients. Some challenges relating to the patients' behaviours and also care management were commented on. These included non-concordance, consulting individuals from certain groups such as the elderly and young people, the knowledge of diabetes and the perceptions of diabetes standards or guidelines.

Unfortunately, they also raised concerns with regards to uncertainties in the future of health care system and lack of administrative support.

The Conversation Analysis has given more comprehensive findings on how the patients and DSNs engaged in consultations. Although each DSN approached the patients differently, the analysis suggested some common pattern from the start to the end of the consultations. Core aspects of diabetes nursing consultation were also identified which suggested the scope of diabetes consultations from the nursing context.

The findings also reported the relationship between empathy and partnership and a positive association between empathy and the patients' outcomes. These associations highlighted the important of the nurses to look at consultations from the patients' perspectives and views, in order to enhance the ability of the patients to self-manage their diabetes.

In conclusion, diabetes consultation has been considered as a crucial element of diabetes management. By examining the views and experiences of the patients and nurses, this study has shown the vital role of the nurse-patient consultation in diabetes care and how diabetes consultation is conducted from nursing context.

11.2. Contribution to knowledge

In the introductory chapter, despite of the increasing prevalence of diabetes and the burdens of diabetes to the patients and the health care system, the lack of evidence on the nurses' and patients' experiences with regards to diabetes consultation is clearly indicated by considering the evidence available prior to the PhD research,

including Woodcock and Kinmonth (2001); Parkin and Skinner (2003); and Edwall, Danielson and Ohm (2010).

The review of the literature has also contributed to the knowledge by offering a comparison of the existing models, or approaches of consultation, and how the models have influenced diabetes consultations conducted by the nurses. In addition to this, a critique on relevant essential consultation skills for nurses and how they have been incorporated within the consultation conducted by nurses has been offered. This thesis has also reviewed the methods in which to conduct research. In the research method chapter the two main research approaches, quantitative and qualitative, are clearly analysed by considering their historical and philosophical dimensions. The epistemological assumption has clarified the selection and position of mixed methods to answer the research question.

The results have contributed to the knowledge, as it has clarified the patients' and DSNs' views and experiences with their diabetes consultations. It appears that the majority of the patients expect their nurses to be able to demonstrate their competence in establishing a helping relationship. In contrast, the nurses considered that the patients' self-management is essential and they should take more responsibility for their diabetes and health care.

The quality of one to one consultations seemed to contribute to the patients' outcomes. These results support the findings from previous studies (El-Gayar, Chen, Sharma and Qureshi, 2007; Royal College of Nursing, 2010) which indicated positive outcomes obtained from the services from the specialist nurses. In this PhD study, this quality is associated with the ability of the DSNs to establish their

partnership with their patients and to show their empathetic understanding, similar to some of the essential skills suggested by O’Gara and Fairhurst (2004).

Prior to this study, there was no consultation model or structure designed for diabetes nursing and the results gave a new evidence of the stages and scope of consultation from the nursing context. The application of conversation analysis (CA) proved to be innovative and effective in exploring the dynamic of nurse-patient consultations. Although the DSNs did not claim that any model had been used, the conversation analysis revealed a common pattern. The integration of the findings from the qualitative and quantitative data resulted in a nursing consultation which has been named as the ‘CUPPA TEA’ strategies, which stand for five essential stages of nursing consultation and three of the scope of nursing practice: Checking the patient’s detail and the system, Uncover any barriers of communication, Patient focused assessment and interaction, Planning and conclusion, Administration and record keeping, together with Treatment, Education and Adjustment of life style.

This thesis has also shown a clear contribution by examining the position of the evidence obtained from the study. The findings from this PhD supported the studies conducted by previous researchers who had reported the complexity of living with diabetes and the challenges in conducting diabetes consultations. The results on the patients’ experiences of attending diabetes consultations together with the DSNs’ experiences have expanded our understanding of diabetes consultations from the nursing context and how diabetes consultations should be delivered in order to enhance patients’ self-care management.

This study has shown the vital role of the nurse-patient consultation in diabetes care from the nursing context. In general, the patients experienced their consultations with the DSNs positively. They highlighted key personal characteristics of the nurses. Similarly, the nurses considered their role in delivering consultation as crucial. Unfortunately, they had some challenges including patients' behaviours, diabetes knowledge of other health care professionals and the lack of administrative support. The association between the nurses' empathetical approaches and the patients' outcomes needs further investigation.

11.3. Limitations of the study

Throughout the process, the validity and reliability of the study was maintained (Creswell and Plano Clark, 2011; Creswell, 2012). However, similar to other studies involving humans and observing their behaviours, this study has some limitations which particularly related to the participants' recruitment, some aspects of data analysis and integration.

There was no concern raised from the DSNs recruitment as the DSNs were voluntarily participating in the research. However, the patients' recruitment for the qualitative interviews seemed problematic as they were selected by the DSNs whereas for the survey, they were recruited through the help from Administrative Staff. In the interview process, none of the patients mentioned any unwelcoming attitudes from the nurses. Although the comments appeared to be genuine, there was a question as to whether the area and setting in which the patients were interviewed could have affected their views. The majority of them were interviewed at the clinic after they finished from their consultations and being interviewed there and not in their own environment might have prevented them from being '*honest*' and '*open*'.

The number of participants for the study was also limited. In the qualitative phase, only seven DSNs were interviewed. This is the total number of DSNs available at the centre that cared for adult patients with diabetes. Similarly, only seven patients agreed to be involved in the interviews and observed consultations. In the quantitative stage, of 150 questionnaires sent, only 40 of them were completed and returned.

The analysis of the interview data was checked and rechecked by the researcher and the research supervisors who are familiar with thematic analysis but the conversation analysis (CA) (Jefferson, 2005; Hutchby and Wooffitt) was something new to the researcher. Although an additional training was taken and support from experts in conversation analysis was sought, the findings might be different if the analysis was conducted by a more skilful CA researcher. However, the analysis followed a systematic course and the scope for interpretative error was therefore reduced.

The integration of the qualitative and quantitative findings was complex due to the number of themes or variables involved, and consequently this integration has produced comprehensive findings.

11.4. Recommendations

Based on the findings, this research offers some recommendations for patients, nurses, health care providers and higher education institutions:

11.4.1. For the patients

It is suggested that the patients should increase their knowledge of diabetes and take more control of their own health condition. Practical actions such as answering the

phone, or returning the call when they are able, will help the nurses to keep their work time more efficient. Following the advice from the nurses is also needed in order to reduce the issues on non-concordance particularly in young people.

11.4.2. For the nurses

The results suggest the importance of adopting the style of '*being available for the patients*' and '*being friendly*'. Two interpersonal skills which the nurses should maintain are the ability to show their empathetic understanding and maintaining the partnership; therefore the nurses should maintain these two elements as good practice in delivering their consultations. In addition to these, showing their interest in the patient and being positive seems to enhance the consultation outcomes, it is therefore suggested that these approaches need to be included in any consultation.

11.4.3. For health care providers

The DSNs demonstrated high level of knowledge and skills commensurate with their '*specialist*' status. The NHS therefore should give the DSNs more voice so that they could contribute more in developing care policies and diabetes management. The structure of diabetes linked nurses needs to be evaluated, as well as support for the link nurses in implementing their knowledge at ward or patient level. For DSNs, extra support is also needed, such as by appointing an Administrator so that they can spend more time in dealing with the patients' health issues.

11.4.4. For higher education institutions

Issues surrounding the discrepancy of diabetes knowledge between professional groups need to be addressed. The HIEs need to work more closely with the diabetes teams so that the provision of continuous professional development for health care

professionals working in diabetes care could be planned and delivered collaboratively. Consultation skills should also be included in any training preparing nurses to take their roles in delivering care for people with diabetes.

11.4.5. For research

Further studies are required to clarify the prejudices or stigmas of obesity and to investigate the attitudes of staff towards obesity, other diabetes related conditions and services such as the NHS Direct and obesity clinics. Research focusing on other areas of nurse-patient consultation is needed to differentiate between the formal and informal approaches, to further explore barriers of consultation amongst certain ethnic groups, non-adherence in diabetes care and coping strategies. The CUPPA TEA approach of nursing consultation has highlighted the common structure of diabetes consultation from the nursing context. However, further research is needed to test it on wider participants.

11.5. Self-reflections

I am pleased that finally I have completed this PhD research. For the last few years, the process has taken over a large part of my life and it would be impossible for me to finish it without the strong commitment, patience, understanding and support from the research supervisors, colleagues, family and friends. In my research journey, I have been across many different paths. It was difficult to decide upon the research topic as I was looking to select a topic which not only was current but also relevant to my personal interest, experience and future career. Following the acceptance of my research proposal, I faced problems in finding supervisors and obtaining an ethical approval. So often, I asked to myself many times whether it would be worth

to continue or just '*forget about it*'. Thankfully, my inner consciousness always told me to carry on and move forward.

Obtaining the ethical approval from the Research ethics committees (RECs) was an ordeal. The administration was lengthy and time consuming. I am fully aware with the requirement to protect research participant safety but the procedure I experienced was somewhat too over-protected and exaggerated. The process of obtaining this ethical approval delayed my research progress more than one year. In my reflection, I was not sure whether my research would go ahead or it would be remain as '*a dream which would be never come true*'.

Conducting a mixed methods research has been so challenging. I was forced to think not only from the philosophical but also from the methodological point of view. I feel that having sufficient experience in conducting qualitative and quantitative research is essential and without this experience, I would not be able to utilise both methods in this research. I have learnt that keeping the knowledge and skills in research continuously is vital and I did my best to attend research trainings as required, although working full time and other commitments prevented me from attending some important research trainings which I would like to be involved with.

I feel that this research has contributed towards the knowledge of diabetes consultations from the nursing context. At the start and the process of data collection and analysis, I was unsure of what findings I could obtain. The critical analysis has revealed a wide spectrum of diabetes consultations in the form of nursing diabetes consultation continuum spanning from negative to more positive experiences. I have learnt that if we could enhance the patients' ability to self-manage their diabetes and

to support our nurses in the same way, then the indicator will move from negative to positive point.

The journey in conducting this PhD training has been so long and on many occasions, I have felt so down and feeling that I could not move on or progress forwards. Being a part-time student and working full-time has been an issue and it has not always been easy to spend time with the research. Maintaining my commitment and getting support from the research supervisors, colleagues and family were therefore so important. I felt that without their support, I would not be able to complete my research and to produce this thesis.

In finalising my reflection, I would like to assure patients and health care professionals that diabetes nursing consultation is not just a matter of establishing a meeting between the nurse and the patient but it is more as developing a mutual understanding and agreement of diabetes care management in an empathetic way. From this reflection, I feel that diabetes nursing consultation should be understood as *'an agreed one to one interaction between the nurse, the patient and/or the family for assessing the issues of the patient in managing their diabetes, reviewing their treatment, providing health education, support and helping the patients to access other health care professionals'*. Although I have disseminated the preliminary findings through university, trust, national or international events, I believe that the efforts still need to be continued for the on-going sharing best practice and quality improvement in diabetes care.

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APPENDICES

Appendix 1 The main published evidence obtained from a variety of databases

Keywords (titles)	Databases	Hits
Consultation and diabetes	AMED	None
	British Nursing Index	13
	CINAHL	42
	Medline	31
Consultation model and diabetes	AMED	None
	British Nursing Index	None
	CINAHL	None
	Medline	None
Consultation and diabetes and nurse	AMED	None
	British Nursing Index	3
	CINAHL	1
	Medline	1
Nurse and patient and interaction	AMED	7
	British Nursing Index	39
	CINAHL	1
	Medline	79
Advanced clinical and diabetes	AMED	None
	British Nursing Index	
	CINAHL	4
	Medline	4

Note: the above list only shows the results from the four databases. As indicated in the main text, during the search process other keywords and databases were also used in different ways and combination and not only limited using the keywords as titles.

Appendix 2 Discrepancies between nurse and patient perceptions

Discrepancies between nurse and patient perceptions

- Concerns:

Patients' top three concerns included fear of getting worse and damage caused by diabetes, while practice nurses ranked these lower (7 and 14, respectively).

Implications:

Ways must be found to support practice nurses in identifying these common concerns so that they can be acknowledged and explored as motivators towards healthy behavioural choices. Had the patients ever mentioned these concerns to their practice nurses? This could be explored in further studies.

- Concerns:

Patients and nurses both identified following dietary advice as a top concern. Patient concern of being 'overweight' was associated with higher BMI as expected. Nurses attributed a concern about 'taking exercise' only to the heavier patients but the concern was not actually held by most of them. Only 18 of the 204 patients with BMI above 25 expressed a concern about taking exercise.

Implications:

Nurses might explore patients' concerns about 'overweight' and see how these could link to a range of behavioural choices and targets such as increasing physical activity and modification of diet in quality and quantity. Ways of reducing the burden of dietary advice are still urgently needed.

Concerns and glycaemic control

- Concerns:

Concerns relating to tiredness/lethargy and mood changes were related to reduced well-being but not to HbA1c. Most patients with elevated HbA1c did not note 'high blood glucose levels' among their top concerns.

Implications:

Patients focus more on current symptoms and well-being than on absolute blood glucose levels. Ways must be found to link insidious symptoms with high blood glucose, and their potential relief with better blood glucose control.

- Concern:

Patients were concerned about diabetes 'getting worse'.

Implications:

The strengthening evidence that good blood glucose control may limit this likelihood can be shared.

Concerns and well-being

- Concern:

The 97 patients who circled 'fear of getting worse' reported greater well being than those who did not.

Implications:

Further work is needed to understand this relationship; for example do patients with most to lose fear loss of health and well-being most? Is admitting this concern a marker of psychological adaptation?

(Woodcock and Kinmonth,2001).

Appendix 3 Poster



Working together towards a better partnership in diabetes care

- ☐ Are you an adult living with diabetes?
- ☐ Would you like to share your life experiences regarding your consultations when you see the nurse?
- ☐ Are you interested in helping to improve the way nurse-patient consultations take place?

If you are agreeable, we would like to invite you to take part in our research.

Aim of the study:

This research is expected to identify the experience of people and nurses in relation to diabetes consultation, with the aim of exploring how the process might be improved.

This research will involve:

Your consultation with the nurse might be observed by the researcher.

You may be asked to attend a 30 minutes interview with the researcher at a convenient time.

Completion of a questionnaire after you have attended your consultation with the nurse

It is expected that this research will be completed within 6 – 12 months. You can decide to participate and withdraw at anytime. This will not affect your rights as an NHS patient.

For further details, please speak with your nurse or contact the researcher: Robert Priharjo, Department of Primary and Intermediate Care, Faculty of Health and Social Care, Anglia Ruskin University, Education Centre, Gables Drive, Thorpe Road, Peterborough PE3 6DA Tel. 0845 1965554 or e-mail: Robert.Priharjo@anglia.ac.uk

Appendix 4 Leaflet

What should I do if I wish to take part?

If you are interested to participate, please contact the researcher either by giving a call , send an email (see researcher's contact details). You can also complete the following information then send it to the researcher's address or leave it in the box available at the reception desk, in the Healthy Living Centre or your GP Surgery



Dear Researcher,

I would like to receive more information about this research:

' An investigation of the experience of people and nurses in relation to diabetes consultation'.

Name :

Address:

.....
.....
.....
.....
.....



Researcher: Robert Priharjo
Faculty of Health and Social Care
Gables Drive, Thorpe Road
Phone: 0845 1965554
Fax: 01733 564603



Nurse-Patient Consultation

From the perspectives of people living with diabetes and nurses

Tel. 0845 1965554

Introduction



This leaflet will give general information about a research which aims to find out the experience of people and nurses in relation to diabetes consultation. If you are an adult living with diabetes or a nurse who delivers consultation as part of your daily duty, we would like to invite you to participate.

What will this research involve?

You can participate in many different stages.

For patients: You will be required to complete a questionnaire. If you wish, following your agreement, you can participate in a 30 minutes individual interview with the researcher. This will take at the same day and place with your appointment to see the nurse. However, alternative times could be arranged to your convenience. The consultation with the nurse might be observed by the researcher.

For nurses: Following your agreement, we would interview you for 30 minutes maximal. One of your consultations may be observed.

Should I take a part ?

It is your decision whether or not to participate. If you wish to help this research and agree to be involved, the researcher or your nurse will contact you and give you the relevant documents. Please feel free to ask any questions and make sure you know clearly about the research before you give your consent. If for any reason, you would like to withdraw, let the researcher know and you will not be asked to give a reason.

What are the benefits to take part?

By taking part, you will get an opportunity to voice your choices and needs with regard to diabetes consultation. This will help our National Health Service and local PCT to find out how consultation in diabetes can be conducted.

How will my confidentiality be protected?

All information we obtain from you will be stored securely. Your personal details such as name and address will be used only for the purposes of contacting you. Any data which leaves Peterborough PCT (Healthy Living Centre) will have your name and other personal details removed and this will make impossible for people to make recognition. The only people who can get access to the data are the researcher and the research supervisors. The data will be retained only for the duration of the research.

Researcher: Robert Priharjo
Faculty of Health and Social Care
Gables Drive, Thorpe Road

Phone: 0845 1965554
Fax: 01733 564603

Appendix 5 Interview schedules (for patients)

Interview schedule for exploring patients experience in relation to diabetes consultation

Opening:

1. **Establish rapport.** My name is Robert Priharjo and I am a Senior Lecturer at Anglia Ruskin University. I am now studying for my PhD at the same university in the area of nursing.
2. **Purpose.** I would like to ask you some questions about your diabetes, your experiences in attending your consultations with your nurse and your expectations on how diabetes consultation is delivered. By interviewing you, I hope to know more about your needs.
3. **Motivation.** I hope to use this information to help our National Health Service and local PCT become more patient- friendly in delivering nurse-patient consultation.
4. **Time line.** The interview should last no more than 30 minutes. Will you be able to spend this time to answer my questions?

Transition: Let me begin by asking you about your diabetes

Body:

1. What type of diabetes do you have?
2. How long have you been living with diabetes?
3. What treatment do you have at the moment?
4. What is your main problem with living with diabetes?
5. What experience do you have of consultations with your diabetes specialist nurse?
6. What are your expectations from the nurse? In general, have your expectations been met? If not why?
7. How has the nurse approached you (e.g. been friendly and clear)?
8. Do you have any suggestions regarding how a consultation should be conducted?
9. Do you feel that the follow-up from your nurse is sufficient? If not why?

10. What changes to the environment (for example, consultation room, booking system, and parking) might be necessary to ensure that the consultation meet your expectations? *)

Transition: It has been a pleasure to do this interview with you and finding out more about you. Let me summarize what you have informed me that I have recorded during our interview.

Closing:

1. **Summarize.** You have been living with Type... diabetes for.....months/years. You are now on..... Your main issues living with diabetes are.....You expect that when attending your consultation..... The nurse generally approaches you by..... Your suggestions regarding diabetes consultation are..... You feel that environment need to be arranged by.....
2. **Maintain rapport.** I really appreciate your time and participation. Is there anything else you would like to say?

Action. Now I have collected all the required information. In case I need to clarify or more information is needed, could I call you at home? Thanks again.

*) Additional questions will be asked to address any issues obtained from quantitative data analysis.

Appendix 6 Interview schedules (for DSNs)

Interview schedule for exploring nurses' experience in delivering diabetes consultation to people living with diabetes

Opening:

1. **Establish rapport.** My name is Robert Priharjo and I am a Senior Lecturer at Anglia Ruskin University. I am now studying for my PhD at the same university in the area of nursing.
2. **Purpose.** I would like to ask you some questions about your background, your experiences in delivering consultations to your patients and your expectations on diabetes consultation. By interviewing you, I hope to know more about the way we have conducted diabetes consultation.
3. **Motivation.** I hope to use this information to help our National Health Service and local PCT become more patients friendly in delivering nurse-patient consultation.
4. **Time line.** The interview should last no more than 30 minutes. Will you be able to spend this time to answer my questions?

Transition: Let me begin by asking you about your background

Body:

1. How long have you been working as a Diabetes Specialist Nurse?
2. What type of patients do you look after at the moment?
3. What are your main issues in caring your patients?
4. What experience do you have with consulting these patients?
5. What are your expectations from the patients? In general, have your expectations been met? If not why?
6. How do you consult your patients? Do you follow a particular model? If yes, which one and why? If not why?
7. Do you feel that the follow-up is sufficient? If not why?

8. What changes to the environment (for the use of an interpreter, consultation room, booking system, and parking) might be necessary to ensure that the consultation meet your expectations?
9. How have you been prepared to perform your consultation role?
10. Do you have any suggestions regarding how a consultation should be conducted? *)

Transition: It has been a pleasure to do this interview with you and finding out more about you. Let me summarize what you have informed me that I have recorded during our interview.

Closing:

1. **Summarize.** You have been working as Diabetes Specialist Nurse for.....months/years. The type of patients you are looking after now..... Your main issues delivering your care are..... You expect that when delivering your consultation..... You generally approach your patients by..... Your suggestions regarding diabetes consultation are..... You feel that environment need to be arranged by..... You feel that the preparation to perform your role in delivering consultancy is.....
2. **Maintain rapport.** I really appreciate your time and participation. Is there anything else you would like to say?
3. **Action.** Now I have collected all the required information. In case I need to clarify or more information is needed, could I contact you? Thanks again.

*) Additional questions will be asked to address any issues obtained from quantitative data analysis.

Appendix 7 Jefferson's transcription symbols for conversation analysis

The Jefferson Transcription System

The transcription system uses standard punctuation marks (comma, stop, question mark); however, in the system they mark intonation rather than syntax. Arrows are used for more extreme intonational contours and should be used sparingly. The system marks noticeable emphasis, volume shifts, and so on. A generally loud speaker should not be rendered in capitals throughout.

[]	Square brackets mark the start and end of overlapping speech. They are aligned to mark the precise position of overlap as in the example below.
↑ ↓	Vertical arrows precede marked pitch movement, over and above normal rhythms of speech. They are used for notable changes in pitch beyond those represented by stops, commas and question marks.
→	Side arrows are used to draw attention to features of talk that are relevant to the current analysis.
Under <u>l</u> ining	indicates emphasis; the extent of underlining within individual words locates emphasis and also indicates how heavy it is.
CAPITALS	mark speech that is hearably louder than surrounding speech. This is beyond the increase in volume that comes as a by product of emphasis.
°↑ I know it, °	'degree' signs enclose hearably quieter speech.
that's r*ight.	Asterisks precede a 'squeaky' vocal delivery.
(0.4)	Numbers in round brackets measure pauses in seconds (in this case, 4 tenths of a second). If they are not part of a particular speaker's talk they should be on a new line. If in doubt use a new line.
(.)	A micropause, hearable but too short to measure.
((stoccato))	Additional comments from the transcriber, e.g. about features of context or delivery.
she wa::nted	Colons show degrees of elongation of the prior sound; the more colons, the more elongation.
hhh	Aspiration (out-breaths); proportionally as for colons.
.hhh	Inspiration (in-breaths); proportionally as for colons.
Yeh,	'Continuation' marker, speaker has not finished; marked by fall-rise or weak rising intonation, as when delivering a list.

y'know?	Question marks signal stronger, 'questioning' intonation, irrespective of grammar.
Yeh.	Full stops mark falling, stopping intonation ('final contour'), irrespective of grammar, and not necessarily followed by a pause.
bu-u-	hyphens mark a cut-off of the preceding sound.
>he said<	'greater than' and 'lesser than' signs enclose speeded-up talk. Occasionally they are used the other way round for slower talk.
solid.= =We had	'Equals' signs mark the immediate 'latching' of successive talk, whether of one or more speakers, with no interval.
heh heh	Voiced laughter. Can have other symbols added, such as underlinings, pitch movement, extra aspiration, etc.
sto(h)p i(h)t	Laughter within speech is signalled by h's in round brackets.

For more detail on this scheme see Jefferson (2004) or available through: <http://www-staff.lboro.ac.uk/~ssjap/transcription/transcription.htm>

Appendix 8 Research questionnaire

Title of Project: An investigation into patients' and nurses' experience of diabetes consultations

Name of Researcher: Robert Priharjo, Senior Lecturer

Version 2

12th February 2010



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Dear Sir/Madam,

I am currently studying for a PhD in health and social care. I am writing to invite you to contribute to this study. Approval for this study has been granted by Cambridgeshire Primary Care Trust and Cambridgeshire 2 Research Ethics Committee.

For my thesis, I have chosen to study the experiences of patients in attending diabetes consultations with the nurse. This research consists of two parts. In the first part, I interviewed patients and nurses. I also observed a variety of diabetes consultations. In this second part, it is expected to involve 150 adults living with either Type 1 or Type 2 diabetes who have recently attended an appointment to see one of the Diabetes Specialist Nurses at the Healthy Living Centre. It requires each participant to complete a questionnaire. For further details please read the enclosed Participant Information Sheet.

Your identity and all information will be maintained confidentially. Results of questionnaires, interviews and observed consultations will not indicate your identity and will not be traceable by others. If you wish to participate, please complete the enclosed questionnaire anonymously and send it back to me as soon as possible using the enclosed stamped and addressed envelope.

Thank you for your co-operation.

Yours faithfully,

Robert Priharjo
Senior Lecturer

PLEASE COMPLETE THE QUESTIONS BELOW AFTER YOU HAVE SEEN THE DIABETES SPECIALIST NURSE

Background (Please circle or tick the relevant answer/s)

1. Gender: ☐ Male ☐ Female

2. Age: ☐ 18 -24 ☐ 25- 44 ☐ 45- 64 ☐ 65 and upwards

3. Ethnic origin

☐ White British ☐ White Irish ☐ Other White
☐ Indian ☐ Pakistani ☐ Bangladeshi ☐ Other Asian
☐ Black Caribbean ☐ Black African ☐ Other Black
☐ Chinese ☐ Mixed ☐ Any other ethnic group

4. The highest year of school completed:

☐ Primary education ☐ Secondary education ☐ Further education
☐ Higher education

5. Are you currently?

☐ Single ☐ Married ☐ Separated ☐ Divorced
☐ Widowed ☐ Prefer not to say

6. Please indicate which conditions you live with

☐ Type 1 Diabetes ☐ Type 2 Diabetes ☐ High cholesterol ☐ High Blood pressure
☐ Other conditions, please specify.....

7. How long have you been living with diabetes?

☐ Newly diagnosed ☐ Less than 1 year ☐ 1 – 3 years
☐ 4 – 5 years ☐ More than 5 years

8. What diabetic treatment do you take?

☐ Diet ☐ Diet and Tablets ☐ Insulin ☐ Tablets and insulin

Nurse- patient Consultation

1. How was your consultation with the Diabetes Specialist Nurse arranged? (Please circle the relevant answer)

☐ My GP referred me to see the nurse
☐ The Diabetologist/ Consultant arranged it
☐ Hospital referral
☐ Self-referral
☐ Other. Please specify.....

2. How would you rate the service or information given by the receptionist when you rang the Healthy Living Centre? (please place a circle round one of the numbers below):

(not helpful) **1** **2** **3** **4** **5** (very helpful)

3. What language(s) - other than English - do you routinely speak at home?

.....

4. If your consultation with the nurse used a language other than English, please write down the language you used:

.....

5. How would you rate your partnership with the nurse? (please place a circle round one of the numbers below):

(Don't know nurse at all) **1** **2** **3** **4** **5** (know nurse very well)

6. How long did the consultation take approximately? (Please indicate the length of time in minutes, for example 15 minutes)

.....

7. In general, what would you expect from the nurse? (please clarify your wishes for example, being friendly and approachable)

.....

7. Do you think your expectations were met? (please give reasons only if you feel they did not meet your expectations for example the time was very limited)

.....

8. What issues of diabetes did you want to discuss with the nurse in your last visit? (You can indicate more than one concern)

.....

9. How much information about diabetes or your care did you get from the nurse? (Please place a circle round one of the numbers below):

(too little) **1** **2** **3** **4** **5** (too much)

Please rate the following statements about the last consultation. Please tick one box for each Statement and answer every statement.

<i>How was the nurse at ...</i>	Poor	Fair	Good	Very Good	Excellent	Does Not Apply
1. Making you feel at ease..... (being friendly and warm towards you, treating you with respect; not cold or abrupt)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Letting you tell your “ story”..... (giving you time to fully describe your illness in your own words; not interrupting or diverting you)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Really listening (paying close attention to what you were saying; not looking at the notes or computer as you were talking)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Being interested in you as a whole person ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>(asking/knowing relevant details about your life, your situation; not treating you as "just a number")</i>						
5. Fully understanding your concerns..... <i>(communicating that he/she had accurately understood your concerns; not overlooking or dismissing anything)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Showing care and compassion.... <i>(seeming genuinely concerned, connecting with you on a human level; not being indifferent or "detached")</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Being Positive..... <i>(having a positive approach and a positive attitude; being honest but not negative about your problems)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Explaining things clearly..... <i>(fully answering your questions, explaining clearly, giving you adequate information; not being vague)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Helping you to take control..... <i>(exploring with you what you can do to improve your health yourself; encouraging rather than "lecturing" you)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Making a plan of action with you ... <i>(discussing the options, involving you in decisions as much as you want to be involved; not ignoring your views)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick here if someone helped you to complete this questionnaire:- ☐

As a result of your last visit to the Diabetes Specialist Nurse, do you feel you are...
(please tick one box in each row):-

	MUCH BETTER	BETTER	SAME	LESS	NOT APPLICABLE
able to cope with life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
able to understand diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
able to cope with diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
able to keep myself healthy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	MUCH BETTER	BETTER	SAME	LESS	NOT APPLICABLE
confident about my health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
able to help myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THANK YOU VERY MUCH FOR YOUR HELP. PLEASE NOW RETURN THE QUESTIONNAIRE BY POST TO THE FOLLOWING NAME AND ADDRESS:

Robert Priharjo
Faculty of Health and Social Care
Anglia Ruskin University
Guild House
Oundle Road, Peterborough PE2 9WP

Appendix 9 Ordered dependent variable model

The following section is taken from the EViews manual

Ordered Dependent Variable Models

EViews estimates the ordered-response model of Aitchison and Silvey (1957) under a variety of assumptions about the latent error distribution. In ordered dependent variable models, the observed y denotes outcomes representing ordered or ranked categories. For example, we may observe individuals who choose between one of four educational outcomes: less than high school, high school, college, advanced degree. Or we may observe individuals who are employed, partially retired, or fully retired.

As in the binary dependent variable model, we can model the observed response by considering a latent variable y_i^* that depends linearly on the explanatory variables x_i :

$$y_i^* = x_i' \beta + \epsilon_i \quad (26.18)$$

where ϵ_i are independent and identically distributed random variables. The observed y_i is determined from y_i^* using the rule:

$$y_i = \begin{cases} 0 & \text{if } y_i^* \leq \gamma_1 \\ 1 & \text{if } \gamma_1 < y_i^* \leq \gamma_2 \\ 2 & \text{if } \gamma_2 < y_i^* \leq \gamma_3 \\ \vdots & \vdots \\ M & \text{if } \gamma_{M-1} < y_i^* \end{cases} \quad (26.19)$$

It is worth noting that the actual values chosen to represent the categories in y are completely arbitrary. All the ordered specification requires is for ordering to be preserved so that $y_i^* < y_j^*$ implies that $y_i < y_j$.

It follows that the probabilities of observing each value of y are given by

$$\begin{aligned} \Pr(y_i = 0 | x_i, \beta, \gamma) &= F(\gamma_1 - x_i' \beta) \\ \Pr(y_i = 1 | x_i, \beta, \gamma) &= F(\gamma_2 - x_i' \beta) - F(\gamma_1 - x_i' \beta) \\ \Pr(y_i = 2 | x_i, \beta, \gamma) &= F(\gamma_3 - x_i' \beta) - F(\gamma_2 - x_i' \beta) \\ &\dots \\ \Pr(y_i = M | x_i, \beta, \gamma) &= 1 - F(\gamma_{M-1} - x_i' \beta) \end{aligned} \quad (26.20)$$

where F is the cumulative distribution function of ϵ .

The threshold values γ are estimated along with the β coefficients by maximizing the log likelihood function:

$$l(\beta, \gamma) = \sum_{i=1}^N \sum_{j=0}^M \log(\Pr(y_i = j | x_i, \beta, \gamma)) \cdot 1(y_i = j) \quad (26.21)$$

where $1(\cdot)$ is an indicator function which takes the value 1 if the argument is true, and 0 if the argument is false. By default, EViews uses analytic second derivative methods to obtain parameter and variance matrix of the estimated coefficient estimates (see “Quadratic hill-climbing (Goldfeld-Quandt)” on page 757).